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Collybia Notebook 2

L. R. Hesler

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5. Pileus viscid and spores less than 5 μ wide;
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brown; clamp connections absent. 19
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25. Spores 7-8 x 4-5 μ ; lamellae pale fuscous C. cinnamomea

Collybia domestica Murrill

Pileus 1-3 cm. broad, convex to nearly plane, surface dry, subglabrous, margin even, color dark ochraceous, not silky; flesh slightly brownish, mild tasting, odor subaromatic; lamellae heterophyllous and furcate, adnate, subcrowded, rather thick, narrow, slightly ventricose, white to pale brown; stipe 1-2 cm. long, 3-4 mm. thick, cylindric, white, solid, pruinose above, subglabrous below.

Spores 5-6 \times 3-4 μ , yellowish in Melzer's sol. and finely echinulate; basidia four-spored; pleurocystidia scattered, projecting only slightly, subfusoid; cheilocystidia similar (?); pileus trama homogeneous beneath a turf of narrow, \pm branched, upright hyaline hyphae; caulocystidia abundant and \pm similar to elements of the cuticle of the pileus.

Habit, habitat, and distribution: On manured garden beds, Hope Gardens, Jamaica, Oct. 23, 1902, F. S. Earle 31.

Observations: Recheck microscopic data from type.

Pileus 1-2.5 cm. broad, convex with an incurved margin, expanding to plane or with an obtuse umbo, surface moist and pruinose, "dark purple drab" to "light vinaceous drab" (purplish) paler and dingy brownish when faded; flesh concolorous with surface, firm, odor none; lamellae close, broad, depressed-adnate, ventricose in age, purplish gray young but becoming \pm "cinnamon drab" or in extreme age a more dingy brown, when fresh appearing glaucous; stipe 1.5-5 cm. long, 2-2.5 mm. thick, equal, concolorous with pileus but appearing paler because of a dense pruinose covering, fairly rigid and cartilaginous, somewhat rooting, darkening somewhat at the base in age, white rhizomorphs present.

Spores, 4-5 \times 2.5-3 μ , broadly ellipsoid, slightly roughened, yellow to ochraceous tawny in Melzer's sol. (those deposited on cap becoming \pm thick-walled, och. tawny in KOH and appearing smooth under oil); basidia four-spored; pleurocystidia and cheilocystidia none; gill trama parallel or nearly so, dingy brownish in KOH, subhymenium not distinctive; pileus trama with a cellular cuticle \pm as in *Phothyrella*, homogeneous and brownish below; clamp connections present.

Habit, habitat and distribution: Gregarious on very old logs and humus, Pellston E'dw'ds, Emmett County, Mich., Aug. 10, 1951, Sheila Hoare & A. H. Smith 37567.

Observations: Check to see if this is a Colocybe.

Collybia hymenocephala (Sm.) comb. nov.

Pileus 2-3 cm. broad, convex or obtuse when young, the margin at first incurved, broadly convex to plane in age, glabrous, "olive brown" to "buffy brown" when fresh, hygrophanous, fading to "tulleul buff" (whitish), or more olivaceous gray, atenate and glistening when faded, not striate; flesh concolorous with the surface in moist or faded condition, thin, very soft and fragile, odor not distinctive; taste slightly farinaceous; lamellae depressed-adnate but toothed, subdistant (18-20 reach the stipe), 2-3 tiers of short individuals, moderately broad (2.5-3 mm.) "tulleul buff" or becoming darker and grayish in age, edges slightly uneven; stipe 4-5 cm. long, 2-3 mm. thick, equal, solid, cartilaginous, fragile, longitudinally appressed-fibrillose striate (not with superficial fibrils and not pruinose near the apex), color pallid to ashy brown (most concolorous with the faded pileus).

Spores 6-7 x 5-5.5 μ , broadly ellipsoid, white in mass, dark blue in iodine, smooth; basidia four-spored, 26-28 x 7-8 μ ; pleurocystidia and cheilocystidia not differentiated; gill trama homogeneous, pale sordid yellowish brown in iodine; pileus trama corticated by a palisade of inflated pedicellate cells 25-36 x 20-25 μ , the remainder homogeneous.

(more)

Collybia hymenocephala

Habit, habitat and distribution: Scattered on wet ground near the edge of a swampy area, Dexter, Michigan, Sept. 23, 1933 (11050, 18650, 18651).

Observations: The lax flesh, the pale sordid olive-brown color of the pileus when moist, the atomate glistening appearance of faded specimens, the palisade of inflated cells over the pileus and the strong bluish reaction of the spores in iodine are all outstanding. In stature it resembles Collybia ludoviciana Murrill, which, however, is much more cartilaginous (dried material of both compared) and its spores are yellowish in iodine. C. fissilis Maire is also readily distinguished by the iodine reaction of its spores.

THE UNIVERSITY OF TENNESSEE

= Dermoloma hymenocepalum (Smith) Sing.

Sydowia 15:142. 1961

spores amyloid
pileus effuse hymeniform

ANNOTATED BY

D. S. D. [Signature]

DATE

8 Jan. 1986

Pileus 1-2.5 cm. broad, convex or slightly umbonate at first, margin incurved, plane in age, hygrophanous, "Prout's brown" to "Warm sepia" or occasionally nearly "auburn", becoming "clay color" to "buckthorn brown" on disc, then fading to avellaneous or over margin "vinaceous buff", when moist faintly striatulate; odor and taste farinaceous; lamellae close, very broad and ventricose, deeply adnexed, rather thick, "cinnamon drab" in color, edges even to dentate at first, eroded in age; stipe 1-5 cm. long, 2-4 mm. thick, often narrowed to a tapering rootlike prolongation, equal above, concolorous with the gills or darker (and more like the pileus), densely white pruinose above, sparsely fibrillose below, hollow, lined with a white pith.

Spores white in deposit, 6-7 (8) \times 3.5-4 (4.5) μ , ellipsoid, smooth, pale blue in Helzer's sol.; basidia four-spored; 25-28 \times 6-7 μ ; pleurocystidia none; cheilocystidia none; gill trama subparallel, pale cinnamon revived in KOH; pileus trama with an hymeni-form layer of clavate-pedicillate cells 15-30 μ broad with pale cinnamon walls, hyphae of tramal body also pale cinnamon in KOH, to near pallid; clamp connections present.

Habit, habitat and distribution: Gregarious to scattered on roots of grass, Whitmore Lake, Mich., June 22, 1935, Sm.-1393.

Observations: This species is closely related to Mycena hymenocephala but neither is a true Mycena.

5

Collybia velutipes (Fries) Quellet, Champ. Jura et Vosges, p. 94
(59). 1972.

Agaricus velutipes Fries, Syst. Myc., 1:119. 1821.

Pleurotus velutipes Quel., Enchir. Fung., p. 147. 1886.

Collybidium velutipes Earle, Bull. N. Y. Bot. Gard.,
5:428. 1909.

Gymnopus velutipes Murrill, North Amer. Flora, 9: 361.
1916.

Myxocollybia velutipes Singer, Bei. Bot. Centbl. 56: 162.
1936.

Pileus 2-5 (7) cm. broad, obtuse to convex with an in-rolled margin, expanding to broadly convex or nearly plane, occasionally remaining broadly umbonate, surface at first somewhat hoary-pruinose but soon polished and shining, viscid, central portion usually "pinkish cinnamon" to "cinnamon rufus" the margin paler, in age tawny to rusty reddish brown with a yellow margin; flesh rather thick and pliant, white to yellowish, odor fungoid, taste not distinctive; lamellae subdistant to close, distinct, adnexed, broad, white to pallid yellowish at first, in age often tinged flesh color, edges slightly fimbriate; stipe 2-7 (10) cm. long, 3-7 (10) mm. thick, equal or nearly so, at times enlarged at or near the point of emergence from the substratum, stuffed becoming hollow, densely velvety to pruinose over all from dense coating of minute hairs, pallid at first but hairs soon becoming yellowish to dark tawny and finally blackish brown from the base upward (consequently the color of the stipe very variable), often bright yellow within at the base in age, more or less radicating and arising in dense masses under the bark or other protected places.

(more)

Collybia velutipes

Spores smooth, $6.5-8 \times 2.5-3 \mu$, cylindric, white in mass, hyaline in KOH, not amyloid; basidia very narrow, $23-28 \times 3.5-4.3 \mu$, four-spored, hyaline in KOH; pleurocystidia scattered, fuscoid-ventricose with obtuse apices, thin-walled, hyaline, $32-48 \times 10-18 \mu$; cheilocystidia similar to pleurocystidia, scattered; gill trama parallel or subparallel, the hyphae $5-10 \mu$ in diam., cells equal in width, subhymenium of much-branched narrow hyphae; pileus trama with a gelatinous cuticle composed of a turf of more or less upright branching hyphae arising from an interwoven basal layer, the interwoven basal layer of hyaline to pale yellowish hyphae $4-8 \mu$ in diam., the terminal cells of the turf-like covering acute, gelatinous, $1.5-3 \mu$ in diam., and hyaline in KOH; occasional non-gelatinous pilocystidia scattered through the turf and projecting from it, these are somewhat ventricose at base and $9-14 \mu$ in diam., taper to an acute apex and have a pale yellowish content at least when revived in KOH; the hyphae beneath the pellicle $8-15 \mu$ in diam., interwoven and with orange-brown walls, the hyphae gradually paler toward subhymenium and finally hyaline (in sections there appears to be a fairly distinct orange-brown zone beneath the pellicle) clamp connections present.

6

Collybia Imshaug 116 (near *velutipes*)

Pileus 3-5 cm. broad, broadly convex with an inrolled margin, expanding to plane or margin finally uplifted and disc shallowly depressed, surface glabrous, viscid, dingy ochraceous to ochraceous orange, duller when dried; flesh pliant, reviving when moistened, odor and taste not recorded; lamellae close narrow, adnate, dingy yellowish, drying concolorous or darker than pileus, edges even; stipe 3-5 cm. long, 4-6 mm. at apex, slightly enlarged downward, pliant, tubular, surface evenly more or less cinnamon from a dense covering of cinnamon tomentum, inserted at the base.

Spores 8-10 x 3-3.5 μ , narrowly oblong, smooth, hyaline, in KOH, yellowish in Melzer's sol.; basidia four-spored, 28-35 x 5-6 μ , often with oily content and hymenium more or less ochraceous in KOH; pleurocystidia scattered, ventricose with obtuse apices or subclavate to narrowly clavate-mucronate, 40-60 x 9-12 μ ; cheilocystidia similar to pleurocystidia or smaller; gill trama interwoven, yellowish in Melzer's sol.; pileus trama with a cuticle of clavate-pedicellate cells in an hymeniform layer and imbedded in a viscous material, the cells hyaline to yellowish, trama proper floccose-interwoven, yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Single to gregarious on conifer wood. Kotsuch Creek more or less 4500 ft. elev. Mt. Rainier National Park, Wash., July 7, 1948, Imshaug 117.

Observations: This species differs from *C. velutipes*

(more)

Collybia imshaug

in paler color of the cap, different type of cuticular
element, and in the coniferous substratum.

Collybia xuchilensis Merrill

Pileus 7 mm. broad, conic to convex, not expanding, surface smooth, glabrous, latericeous, margin slightly irregular, concolorous; lamellae adnexed, crowded, rather broad, stramineous; stipe slightly tapering upward, 1 cm. long, 1-1.5 mm. thick, glabrous, amber-colored, whitish mycelioid at base.

Spores 5-6.5 μ , globose, smooth, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia present, 36-40 x 10-18 μ , subovoid or with an ovate-pointed apex, hyaline, smooth; pileus trama homogeneous beneath a loose palisade of inflated pedicillate cells filled with a dark brown content, the cells clavate or with elongated necks and blunt apices.

Habit, habitat and distribution: On dead wood in a coffee plantation at Xuchitos, Cordoba, Mexico, Jan. 17, 1910, Merrill 1136.

Observations:

Collybia texensis sp. nov. (?)

Pileus (1) 3-6 cm. broad, obtuse with an incurved margin, expanding to broadly campanulate or obtusely umbonate, surface dry and velvety from dense coating of setae, dull brown with a ferruginous tone (duller than Xeramphalina tenuipes) margin even and opaque; flesh firm and drying rather hard, whitish, odor and taste not recorded, reviving well when moistened; lamellae close, adnate to apex of stipe narrow to moderately broad, white, becoming orange buff on drying and in contact with naphthaline, edges even; stipe 4-7 cm. long, 2-4 mm. thick at apex, enlarged to ground line and continuous with a long pseudorhiza, paler than the pileus, dull cinnamon evenly over all and thinly pilose from long caulocystidia which finally becomes appressed causing stipe to appear fibrillose, cartilaginous and firm.

Spores 11-14 x 7-9 μ , oval to elliptic in face view, sub-inequilateral in side view, hyaline in KOH, yellowish in Melzer's sol.; smooth, thin-walled; basidia 2-spored, 35-44 x 8-9 μ , with large highly refractive globules; pleurocystidia scattered, 50-70 x 12-16 μ , ventricose with thick necks and obtuse to rounded apices, hyaline in KOH; cheilocystidia similar; gill trama subgelatinous and interwoven;

(more)

Collybia texensis sp. nov.

pileus trama with a cuticle of upright clavate cells with dingy smoky brown to dull ochraceous content (in KOH) from this numerous hyaline thick-walled setae $40-60 \times 5-9 \mu$ arise, gigantic setae $100-200 \mu$ plus $\times 10-15 \mu$ arising in cap trama and projecting various distances (easily broken) their walls thick and ochraceous in KOH; pubescence of stipe also of setae; clamp connections absent.

Habit, habitat and distribution: Under live oak, Cisco, Texas, Aug. 20, 1935, C. A. Smith.

Observations: The distant lamellae much larger spores on 2-spored basidia distinguish this from *C. setulosa*. The hyaline setae on the cap may be an additional difference. In old caps even the cuticular setae are brown-walled.

Collybia setulosa Murrill

Pileus 16 mm. broad, 6 mm. high, conic to convex, truncate, surface uneven, rugose, dry, fuliginous, isobelline on disc, entirely and thickly beset with minute white or brownish bristles, margin undulate, slightly incurved, concolorous; lamellae adnate to a collar, distant, rather broad, pure white; stipe 5 cm. long, 3-5 mm. thick, compressed, isobelline, with a dense coat of minute brown fibrils, hollow, tough, enlarged and radicate at the base.

Spores 8-10 x 7-9 μ , globose to subglobose, smooth with a rather oblique apiculus (side view), yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia present, 60-80 x 12-20 μ , smooth, thin-walled, hyaline, ventricose with blunt apices; cuticle of pileus formed by a palisade of cystidia with dark brown content, brown, thick-walled setae intermingled, the pilocystidia 22-36 x 8-12 μ , and - fusoid-ventricose, the setae 50-130 x 7-12 μ and tapered evenly to a point; caulocystidia similar to the setae of the pileus.

Habit, habitat and distribution: In clay on a wet marshy bank, Cinchona, Jamaica, 1500 m. elev., Murrill 632.

Observations: The aspect is that of a small Xeromphalina tenuipes but the non-amyloid spores exclude it from that genus.

Collybia lacunosa Peck (*C. chrysopepla* Berk.) *Xerula*

Pileus 5-10 (20) mm. broad, convex with an incurved margin, expanding to nearly plane but usually the disc slightly depressed in age, surface typically dry and dull, margin sulcate striate, lacunose, bright lemon yellow to golden yellow, in age finally pallid yellowish to whitish (after being rain-washed); flesh pliant, whitish, odor none, taste not recorded; lamellae broad, subdistant, adnate to decurrent, thickish, often intervenose, white to yellowish, edges even; stipe (8-12) 1-4 (5-) cm. long, \pm 2-3 mm. thick, equal solid, firm, tough, inserted and base often swollen, lemon yellow to pallid yellow, pulverulent to furfuraceous or floccose-squamulose.

Spores 9-12 \times 6-7 μ , smooth, ovate pointed in face view, with a slight suprahilar depression in side view, hyaline in KOH, yellowish in Melzer's sol.; basidia 58-62 \times 10-12 μ , four-spored, content globular; pleurocystidia numerous, of two general types: (a) fusoid-ventricose with obtuse apices, 80-110 \times 10-12 μ (projecting \pm 40 μ), (b) narrowly fusoid and 50-60 \times 4-5 μ , content often oily; cheilocystidia abundant, similar to both types of pleurocystidia; gill trama of interwoven hyaline \pm gelatinous hyphae (revived in KOH) content very oily; pileus trama of hyphae like those of gill trama but cuticle a loose palisade of golden-yellow walled cells, some thick-walled and 40-50 \times 9-12 μ and micronate, others clavate and with hyaline to yellow walls and granular content, often giving rise to filamentous apical outgrowths; clamp connections present.

(more)

C. lacunosa Peck

Habit, habitat and distribution: Scattered to gregarious on hardwood debris in eastern North America. It is found during the spring and fall and is often fairly common during wet seasons.

Observations: Pearson has recorded it from South Africa.

11

Collybia radicata-complex Sm.-10931

Pileus 3-5 cm. broad, obtuse when young, expanding to plane or with a low umbo, surface viscid, glabrous, whitish; flesh thin, odor and taste not recorded; lamellae broad, subdistant, white, (ochraceous orange after drying and contact with naphthalene), adnate with a decurrent tooth; stipe 5-6 cm. long, 3-4 mm. thick at apex enlarged to ground line, with a pseudorhiza.

Spores 17-22 x 9-12 μ , broadly fusiform, smooth, yellowish in Melzer's sol.; content orange to reddish when revived in KOH (after standing in naphthalene on dried carpospore); basidia four-spored, 50-60 x 10-14 μ , content reddish when revived in KOH (yellowish in Melzer's sol.); pleurocystidia none; cheilocystidia elongate-capitate, 40-70 x 9-13 μ , pedicels gelatinous; gill trama interwoven, subhymenium not distinctive; pileus trama with a cuticle of a palisade of small clavate-pedicellate cells 20-50 x 7-12 μ , hyaline and with thin walls, thin-walled filaments projecting from the layer also, the layer beneath the palisade compact and interwoven, not gelatinous, tramal body loosely floccose; clamp connections none (check on better material).

Habit, habitat and distribution: Single in low woods, Milford, Mich., Sept. 15, 1933, Sm.-10931.

Observations: This is a distinctive species in the *radicata* complex.

Collybia radicata^a Sm.-32409--white dry variety

Pileus 3-7.5 cm. broad, obtuse with an incurved margin, expanding to plano-umbonate or the umbo obsolete, surface moist and hygrophanous, glabrous, translucent striate, white to creamy white in buttons, becoming tiller buff (pallid), fading to a dead creamy white and then opaque, disc often becoming cinnamon buff, rugulose when faded; flesh pliant, whitish, odor and taste mild; lamellae broad, bluntly adnate, subdistant, 3 tiers of lamellulae, edges even or nearly so; stipe 6-12 cm. long, 8-10 mm. thick, clavate but narrowed at base to the pseudorhize, solid, white within, surface white at first, finally becoming pale brownish, slightly pruinose to unpolished, apex fibrillose pruinose.

Spores 9-12 x 6-7 μ , somewhat inequilateral in side view, ovate in face view, smooth, yellowish in Melzer's sol.; basidia 48-56 x 9-12 μ , content refractive-globular, four-spored; pleurocystidia scattered to abundant, 60-120 x 12-25 μ , fusoid-ventricose with broadly rounded apices, hyaline, thin-walled, some varying to subcylindric; cheilocystidia abundant, clavate-elongate 40-100 x 10-20 μ , hyaline (gill edge gelatinous in the region of the pedicels and fanning out somewhat as in Mycena vularis); gill trama interwoven, yellowish in iodine; subhymenium thin and subgelatinous especially near gill edge; pileus trama with a loose hymeniform cuticle of elements similar^{to} cheilocystidia or shorter and more clavate, arising from a gelatinous layer, tracheal body floccose, yellowish in Melzer's sol.; clamp connections present.

(more)

Sm.-32409

Habit, habitat and distribution: Scattered to gregarious under hardwoods, Mackinaw City Hdws, July 3, 1949, Sm.-32409.

Observations: The pileus was not viscid in moist humid weather and there was no pigment in the cells forming the cuticle of the pileus.

Collybia Sm.-34587 (near *longipes*).

Pileus 3-6 cm. broad, obtuse with an incurved margin, expanding to campanulate or nearly plane with a low broad umbo, surface moist and hygrophanous, fuliginous fading to cinereous and then a tomato (with appearance of kid leather) when faded; flesh white, firm, thick in the disc, tapered abruptly, odor none; taste mild, no color changes when bruised; lamellae broad, subdistant, adnate, ventricose, white to tilloul buff (pallid), with a general tendency to become pale vinaceous buff in age; stipe 6-10 cm. long, 4-8 cm. thick at apex, enlarged downward to ground line and then tapered to a long pseudorhiza, lower portion fuliginous, pallid toward apex, pubescent, twisted striate in some and with rusty stains in age.

Spores 8-11 x 6-8 μ , hyaline, ventricose-ovate to merely ovate in face view, somewhat inequilateral to humpbacked in side view, some \square elliptic, smooth, yellowish in Melzer's sol.; basidia four-spored (40-50 x 8-9 μ), content of some oily-granular, pale yellow in Melzer's sol.; pleurocystidia 60-100 x 12-20 μ , broadly fusoid-ventricose to subcylindric with obtuse apices which in fresh material often appear slightly thickened in apex, encrusted over surface and incrustation brown in KOH (hyaline in chloral hyebrate); cheilocystidia similar to pleurocystidia; gill trama hyaline, interwoven, subhymenium not distinctive; pileus trama homogeneous and hyaline beneath an hymeniform cuticle studded with narrow hyaline thick-walled setae, some thin-walled filaments also projecting, setae arising in trama proper and many over 100 μ long; clamp connections present.

(more)

Sm.-34587

Habit, habitat and distribution: Gregarious along a stream, French Creeck, lower area, Medicine Bow Mts., Wyo., July 7, 1950, Coll. Eugene Cronin (Sm.-34587).

Observations: The smaller spores and setae on the pileus distinguish this from C. radicata with which it is closely related--especially with variety furfuracea of that species which usually has a dry pileus.

Collybia radicata furfuracea Fk. (Sm-38974).

Pileus (3) 4-10 (18) cm. broad, obtuse to subtruncate young, expanding to nearly plane or retaining an obscure umbo, surface dry and somewhat unpolished in appearance, often radially rugulose around the umbo, fuscous to bistre when young, fading to wood brown over all except the sepioid disc or umbo, when faded the margin at times may be slightly sulcate; flesh thin, pliant, white, odor not distinctive, taste mild to somewhat disagreeable, no color change when bruised but gills often bright orange to salmon after dried material has stood for a time in the presence of naphthalene; lamellae broad, adnate with a decurrent tooth, close to subdistant, white and clean in appearance, edges even; stipe 10-25 cm. long exclusive of root, 5-10 mm. at apex, evenly enlarged to ground line or equal, surface iron gray over all except apex from a dense coating of caulocystidia, apex white, pruinose-velvety from caulocystidia, with a pseudorhize of various lengths depending on how close the substratum is to the soil surface.

Spores 13-17 x 9-11 μ , broadly ellipsoid, when fresh and first mounted in H₂O the content showing as numerous small yellowish globules, these soon aggregated in a large globule, smooth, the walls slightly thickened, (check surface under oil); basidia four-spored 48-62 x 12-16 μ , with yellowish oily content before sporulating; pleurocystidia scattered 60-85 x 15-30 μ , ventricose with broadly rounded apices, smooth, thin-walled; cheilocystidia smaller and more basidium-like or merely slightly ventricose; gill trama intricately interwoven, of hyaline, long broad hyphae;

(more)

pileus trama loosely interwoven and hyaline beneath a highly organized cuticle of a palisade of pear-shaped cells and obovate to clavate or sub-elliptic elements which are brownish in H₂O mounts fresh, clamp connections present. Numerous fusoid-ventricose pilocystidia projecting from the layer just described.

Habit, habitat and distribution: Scattered to gregarious from buried hardwood debris, often around old stumps, rarely around conifers. It fruits from early summer to fall, and is often common.

Observations: This is a well marked fungus by virtue of the dry pileus and stipe with its dark covering of caulocystidia. No gelatinous layer was noted beneath the hymeniform cuticle.

Collybia radicata (Fries) Quelet, Champ. Jura et Vosges,
p. 92, 1872.

Agaricus radicatus Fries, Syst. Myc., 1:113. 1821.

Gymnopus radicatus Murrill, North Amer. Flora, 9:366. 1916.

Mucidula radicata Boussier, Bull. Soc. Myc. Fr., 40:332.
1924.

Clitocybe megalospora Clements, Bot. Surv. Neb., 4:18. 1896.

Collybia macroura Gramberg, Pilze Heimat, 1:33. 1913.

Pileus 3-10 (12) cm. broad, obtuse to subovoid with an incurved margin, expanding to plane or expanded umbonate, finally plane or with the margin broadly recurved, surface glabrous, viscid when moist but soon dry, smooth to conspicuously rugulose, color extremely variable, "mummy brown" to "biater" to "Saccardo's umber" (dark sordid yellowish brown) but often paler and a dirty buff color or white to nearly white; flesh thin, white, pliant, odor and taste not distinctive; lamellae adnexed, broad, subdistant to close, white to whitish, thickish, edges even or nearly so; stipe (3) 6-20 cm. long, 4-8 (10) mm. thick at apex, rigid and erect, becoming hollow, attenuated upward, glabrous to unpolished or slightly furfuraceous, twisted striate to sulcate at times but usually even, whitish above, darker brownish downward, but at times white throughout, usually paler than the cap, with a long tapering often contorted pseudorhize 5-15 cm. long.

Spores 12-17 (18) μ 9-12 μ , broadly subellipsoid, smooth, white in mass, not amyloid; basidia four-spored, 38-44 \times 12-14 μ ; pleurocystidia voluminous, (80) 100-150 \times 16-36 (45), ventricose and only slightly narrowed to a broadly rounded apex,

(more)

Collybia radicata

hyaline, scattered to abundant; cheilocystidia abundant, smaller than pleurocystidia, saccate and $28-36 \times 7-12 \mu$, cylindric and $35-68 \times 6-9 \mu$, or some fusoid ventricose with obtuse apices, $30-46 \times 3-12 \mu$, all hyaline; gill trama loosely floccose and interwoven, the hyphae $12-15 \mu$ in diam. not amyloid; pileus trama loosely floccose of hyphae $12-18 \mu$ in diam. and not amyloid, the cuticle two layers, lower layer of compactly arranged filamentous hyphae $2-3 \mu$ in diam. from this arises a turf-like covering of pileocystidia of various types, mostly clavate to globose-pedicellate and $34-46 \times 14-20 \mu$, pedicel $4-6 \mu$ in diam., others elongated, mucronate, up to 50μ long, others subcylindric, up to $80-8 \mu$, the walls at times flexuous, some resembling the pleurocystidia, brown color located in the cuticle although individual cells when revived in KOH appear hyaline; no clamp connections seen.

Habit, habitat and distribution;

Pileus 3-10 mm. broad, broadly convex, moist, but surface velvety from projecting cystidia (under a lens), white at first, becoming cream color on disc, in age dull tawny over all, striate to disc when moist; flesh thin, odor and taste mild, consistency marasmius-like (rather tough); lamellae subdistant in small caps, crowded in larger ones, broad, white, in age pale yellowish, bluntly adnate, edges even; stipe 3-10 cm. long 0.5-1.5 mm. thick, equal, with a long matted-fibrillose rooting portion, fibrils grayish but becoming tawny in age, surface yellowish to tawny below, white above; pubescent from projecting cystidia, darkening to tawny nearly to apex in age.

Spores (3.5) 4-4.5 \times \pm 2 μ , smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored, 12-14 \times 4-5 μ , clavate when sporulating, yellowish in Melzer's sol.; pleurocystidia abundant, 40-55 \times 10-15 μ ventricose-micronate to subovate, often (in KOH) with heavy incrustation around apex (this dissolves in chloral hydrate); cheilocystidia similar (these rare) or merely narrowly fusoid-ventricose (abundant) and 40-65 \times 8-12 μ , in KOH many with adhering amorphous material; gill trama interwoven; pileus trama yellow in Melzer's sol. with a cuticle of hymeniform cells from among which arise numerous pileocystidia similar to cheilocystidia but both broader and longer; caulocystidia very abundant, narrowly fusoid-ventricose, 60-120 \times 8-12 μ , yellow in Melzer's sol.; clamp connections absent.

Habit, habitat and distribution: On magnolia cones, Indian Creek, N. C., Great Smoky Mts. National Park, Sept. 5, 1937, Sm.-7432. (more)

Sm.-7432

Observations: This species is closely related to
Collybia albipilata.

Collybia albipilata Peck. (*Pseudohiatula* sensu Singer)

Pileus (0.5) 1-2 (3) cm. broad, convex with an inrolled margin, plane or nearly when fully expanded, surface moist, densely pruinose from pilocystidia, "clove brown" to "olive brown" moist, hygrophanous and fading slowly to "buffy brown" or cinereous to pallid (small caps often fading to dingy white), not striate; flesh thin, tough, pliant, odor and taste not distinctive; lamellae, close, broad, sinuate or rounded and adnate, white to grayish, pruinose from cystidia; stipe 2-4 cm. long, 1.5-2 mm. thick, with a long pseudorhiza covered by an ochraceous tawny mass of fibrils, above ground part concolorous with the pileus or at apex pallid, densely pruinose-pubescent from caulocystidia, pliant and tough.

Spores white in deposit, 5-6 x 3-3.5 μ , smooth, ellipsoid to drop-shaped, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia abundant and similar, (40) 50-70 x 8-12 μ , narrowly fusoid-ventricose or with a long-cylindric neck above a slightly inflated basal portion, apices obscure to subacute, shorter ones fusoid-ventricose, amorphous material sometimes adhering; gill trama somewhat interwoven, nearly hyaline in KOH, in Melzer's sol. with reddish to orange red subhymenial zone or color present throughout (basidia yellow); pileus trama yellowish in Melzer's sol.; with a cuticle of erect clavate cells from among which numerous large pilocystidia similar to pleurocystidia project; no clamp connections present.

(more)

Collybia albopilata Peck

Habit, habitat and distribution: Scattered to gregarious on cones and debris of conifers, not uncommon in the coniferous areas of Northern United States, southern Canada, and our western Mountains.

Observations: The hairs at the base of the stipe are mostly aseptate and with slightly thickened walls. This is an extremely variable species for which I prefer to use a name definitely attached to a type specimen.

Collybia ⁰~~cap~~naigena (sensu European authors?)

Pileus 2-6 (10) mm. broad, convex with an inrolled margin, expanding to plane or nearly so, surface moist and subhygrophanous, at first hoary from pilocystidia, more or less dingy cinnamon to cinnamon gray, paler faded cartilaginous, odor and taste not recorded; lamellae broad, close, rounded-acute, pallid or tinged buff, edges more or less fimbriate under a lens; stipe 1-3.5 cm. long, 0.5-0.75 mm. thick, crooked, basal portion strigose-fibrillose, above portion densely pruinose-tomentose from caulocystidia, rather tough and pliant.

Spores more or less 3 x more or less 2 μ , smooth, yellowish in Melzer's sol.; broadly ellipsoid to subglobose; basidia four-spored; pleurocystidia abundant, broadly subcylindric above a narrowed base and at first with encrusting material (dissolves in Melzer's & KOH), 32-44 x 10-13 μ , apices broadly rounded; cheilocystidia similar to pleurocystidia; pileus trama with a cuticle formed of a palisade of clavate hyaline cells and interspersed are many pilocystidia 40-70 x 5-8 μ , hyaline, walls slightly thickened, apices subacute or very slightly enlarged; clamp connections not present; hyphae at base of stipe somewhat thick-walled, hyaline, aseptate or rarely septate, 3-4 μ diam.

Habit, habitat and distribution: On cones of Douglas fir, Cowichan Lake, B. C., R. E. Fasler, Sept. 27, 1943, Garmon. (V-830), comm. by Buckland, Forest Path. Lak. British Columbia.

Observations: The small spores distinguish this from C. albipilata.

Pileus 17 mm. broad, convex, glabrous, "ochraceous tawny" fading to "antimony yellow" then "cinnamon buff", subhygrophanous, margin opaque when moist, appearing plush-like when faded; flesh thin, firm, odor none; taste bitter; lamellae adnexed, narrow, crowded, "antimony yellow", edges even; stipe 3 cm. long, 5 mm. thick, equal, glabrous, but fibrillose around base, pruinose above, concolorous with pileus.

Spores 4-4.5 x 3 μ , broadly ellipsoid, wall hyaline in KOH but many with internal vinaceous pigment body, in Melzer's sol. the wall hyaline to yellowish and pigment body often present, smooth; basidia 27-30 x 6-7 μ , four-spored, often with amorphous vinaceous red pigment revived in KOH, pleurocystidia none; cheilocystidia rare to scattered, filamentous, flexuous, 2.5-4 μ in diam.; gill trama, flushed vinaceous revived in KOH but clearing \perp parallel, hyphae narrow, subhymenium not distinct; pileus trama homogeneous and vinaceous-red (in KOH) beneath a tangled turf of pilocystidia 26-45 x 5-7 μ , the pilocystidia mostly narrowly clavate and hyaline (in KOH); clamp connections absent.

Habit, habitat and distribution: Single in a sphagnum bog, Whitmore Lake, Mich., July 24, 1933, Sm-33-618.

Observations: The small spores, bitter taste and tangled turf of pilocystidia are sufficient to characterize the species even with such scanty material as a type.

Collybia colorea Sm.-201

Pileus 2-3.5 cm. broad, convex, becoming plane, surface dull, unpolished, evenly wax yellow when fresh, becoming brownish in age and appearing somewhat plush-like; odor and taste not recorded; lamellae moderately broad, narrowly sinuate, close, wax-yellow; stipe 5-4 cm. long, 2-4 mm. thick, \pm equal, wax-yellow, rather tough and unpolished.

Spores $5-5.5 \times \pm 4 \mu$, broadly ellipsoid, often with a vinaceous red pigment body as revived in KOH or Melzer's sol., smooth, walls pallid yellow in Melzer's sol.; basidia four-spored, often with vinaceous red pigment body; pleurocystidia and cheilocystidia none; gill trama subparallel, vinaceous in KOH but becoming paler, subhymenium not distinctive; pileus trama homogeneous beneath a turf of subclavate to subcapitate pilocystidia (as hyphal tips) $20-50 \times 5-8 \mu$, pallid vinaceous in KOH like the hyphae of the tramal body or the latter a brighter tone; clamp connections none.

Habit, habitat and distribution: Scattered on hemlock logs, Catlin Lake, Adirondack Mts., N. Y., Aug. 10, 1934, Sm.-201.

Observations: The dried specimens finally turned dull vinaceous in contact with naphthalene. Check all fresh collections of this group in the future in order to clear up the matter of pilocystidia which are present here but not recorded in my western material.

Collybia glatfelteri Murr.

(*C. tenuifolia* Murr is a synonym)

Pileus 5-8 cm. broad, obtuse becoming convex to sub-expanded, glabrous, rivulose, pallid to pale tawny, darker on the disc (reddish fulvous), margin pallid, striate when dry; flesh thin, white, with a tendency to become soft; lamellae sinuate adnexed, broadest behind, pallid, close, with a tendency to become soft; stipe 10-15 cm. long, 4-10 mm. thick, cylindric, equal, hollow, flexuous, becoming twisted-striate, pulverulent at apex, slightly scurfy at base, becoming glabrous.

Spores 5-6 x 3.5-4 μ , smooth, ovate to subelliptic yellowish in Melzer's sol.; basidia four-spored; pleurocystidia abundant, 60-80 x 9-15 μ , broadly fusoid with pointed apices, originating deep in gill trama; cheilocystidia similar; gill trama and pileus trama vinaceous red in iodine; cuticle of pileus a palisade of clavate hyaline cells 20-30 x 8-12 μ .

Habit, habitat and distribution: Scattered to gregarious on humus in deciduous forests.

Observations: Look up Hesler's description of this species.

Collybia fasciatus (Penn.) comb nov.

Pileus 4-6 cm. broad, obtusely conic, becoming plane with a broad obtuse umbo or the margin recurved, surface glabrous and polished, lubricous, smooth to reticulate or pitted, margin scarcely striatulate, color "Sage brown" on disc and "pinkish buff" toward the pallid margin, buttons much darker and near "Verona brown"; flesh moderately thick and rather cartilaginous, watery avellaneous to pallid, odor fungoid, taste mild at first but becoming somewhat acidulous; lamellae deeply and narrowly adnexed or attached only by a slight tooth (but often appearing bluntly adnate), moderately broad, (5-6 mm.) nearly equal, fairly close, evenly very pale avellaneous, edges even and concolorous with faces; stipe 8-10 cm. long, 8-11 mm. thick, slightly enlarged below, hollow, very cartilaginous, surface polished and slightly twisted-striate or smooth, pale tan to ochraceous tawny below, concolorous with the gills above, base white fibrillose-tomentose.

Spores 7-9 x 3-3.5 μ , narrowly subfusoid (side view) smooth, hyaline in KOH, in Melzer's sol.; yellowish; basidia four-spored; pleurocystidia and cheilocystidia similar, 40-70 x 7-11 μ , arising from gill trama, often not projecting, fusoid, yellow in Melzer's sol., hyaline and metallic-appearing in KOH; gill trama subparallel, hyaline in KOH, deep red to vinaceous red in Melzer's sol.; pileus with an hymeniform cuticle of closely packed cells 18-36 x 6-11 μ , the walls slightly colored but not appreciably thickened, tramal body floccose-interwoven, hyaline in KOH, deep vina-

(more)

Collybia fasciatus (Penn.)

ecous red in Melzer's sol.; clamp connections absent.

Habit, habitat and distribution: Cespitose on humus and very rotten wood, summer and fall, Michigan, Sm.-15213.

Observation: This species is likely to be sought for in *Collybia* because of its size and relative fleshiness.

Collybia cystidiota Smith & Hesler, Jour. Elisha Mitchell
Soc. 56:305. 1940

Pileus 2-5 cm. broad, convex or with an obtuse umbo, margin incurved at first, spreading in age, slightly hygrophanous, when moist watery avellaneous to near "pinkish buff" (usually grayer than pinkish buff), often translucent-striatulate on margin, becoming opaque in age, "Sage brown" to "ochraceous tawny" on the disc, the margin remaining "pinkish buff", surface rugulose after fading or finally rugose pitted or reticulate; flesh thin, white, cartilaginous, odor pungent (sometimes faint), taste bitter; lamellae rounded and attached by a basal tooth or appearing free, sometimes deeply and narrowly adnexed, moderately close to subdistant, narrow (2.5 mm.), whitish, edges pruinose from cystidia (under a lens), sometimes staining reddish brown in age; stipe 3-8 cm. long, 3-6 mm. thick, equal, strict, tubular, fragile, polished and translucent, not striate, whitish above, tinged brownish at base, base sometimes slightly enlarged and white mycelioid.

Spores deposit white; spores 7-10 x 3-4 μ , narrowly ellipsoid to subcylindric, smooth, yellowish in Melzer's sol.; basidia four-spored, 20-22 x 5-6 μ ; pleurocystidia very abundant, 32-80 x 8-12 μ , smooth, hyaline, the walls usually thickened, fusoid-ventricose young, lanceolate in age, bases usually curved, originating in subhymenium; cheilocystidia scattered, 28-35 x 7-9 μ , smooth, walls somewhat thickened, clavate to subcylindric or tapered at the

(more)

Collybia cystidioides

apex; gill trama homogeneous, subparallel, reddish brown in iodine; pileus trama homogeneous beneath a palisade layer of inflated cells 10-25 x 8-15 μ , reddish brown in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Scattered on humus in a mixed forest, Indian Creek, N. C. Great Smoky Mts. National Park, Sept. 6, 1937, Sm.-7416 and 7437., Aug. 14, 1938, Sm.-10167; July 30, 1939, Sm.-12195 (coll. by Hesler).

^c
Collybia ludovicianus Murrill.

Pileus 1-1.5 cm. broad, convex, expanding and becoming slightly umbilicate, surface glabrous, strongly rugose, pallid, margin concolorous, slightly striate and when young inflexed; lamellae adnate with a collar, distant, inserted, of moderate width, strongly interveined, white; stipe 3-4 cm. long, 1-2 mm. thick, cylindric, equal, firm, solid, smooth, glabrous, pallid above, reddish brown at the base.

Spores 4-5 x 3 μ , smooth, ellipsoid, yellowish in Melzer's sol.; basidia (none found with sterigmata in revived material); pleurocystidia none; cheilocystidia 20-33 x 7-11 μ , clavate to saccate, smooth or a few small distinct projections scattered over the apices; pileus and gill trama vinaceous red in Melzer's sol.; cuticle of pileus of a palisade of clavate to pear-shaped hyaline cells.

Habit, habitat and distribution: On humus in wet woods, City Park, New Orleans, La. Earle #26.

Observations: Recheck microscopic data on type. The type was not at all *Marasmius*-like when revived.

Collybia albogrisea Fk. Bull. Torrey Club 22:199 1895.

Pileus 2-3 cm. broad, convex to nearly plane, glabrous, whitish to grayish; flesh white; lamellae broad, distant, adnate, white or whitish, interspaces often venose; stipe 3-5 cm. long, 2-4 mm. thick, hollow, nearly equal, sometimes twisted-striate, whitish to grayish, the lower part covered with a dense whitish or yellowish tomentum, the upper part naked or merely whitish pruinose.

Spores 6-8 x 3.5-4 μ , smooth, ellipsoid, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia none; gill and pileus trama vinaceous red in Melzer's sol.; cuticle of pileus a palisade of upright pedicellate cells 10-15 x 6-10 μ (hymeniform).

Habit, habitat and distribution: Cespitose on fallen leaves, Pasadena, Calif.

Observations: Restudy the type and fill in rest of description of microscopic characters.

Collybia strictipes Fk. Sm.-19295

Pileus 2-5 (7) cm. broad, convex with an inrolled margin, expanding to plane or with the margin raised and wavy, surface glabrous, moist, hygrophanous, even to rugulose or rarely pitted, yellowish with tawny or rufous tinge over disc, somewhat stomate and slightly paler faded, margin translucent striatulate moist; flesh firm, pallid, odor and taste not distinctive; lamellae adnexed (often deeply so), crowded narrow to moderately broad, whitish, edges even; stipe (2) 4-8 (10) cm. long, 3-8 mm. thick, strict, equal, hollow, terete or compressed, smooth or twisted-striate, pallid to pale honey-brown (especially below), glabrous, pruinose above.

Spores 8-10 x 3.5-4 μ , narrowly oblong-pointed, tapered to hilar end and seen in side view with a distinct supra-hilar depression, smooth, yellowish in Melzer's sol.; basidia four-spored, 28-33 x 5-7 μ , content conspicuously oily-granular in KOH, hymenium pale yellow in Melzer's sol.; pleurocystidia none; cheilocystidia abundant, 30-38 x 5-11 μ , narrowly clavate to \perp contorted, often mitten-shaped in broadest view, many with obscure humps over enlarged portion; gill trama somewhat interwoven, hyaline and \perp glassy in KOH, walls of hyphae slightly thickened, dark reddish brown in Melzer's sol.; subhymenium not distinctive; pileus trama with a compactly arranged palisade of clavate cells for a cuticle, tramal body of compactly interwoven hyphae as in the gill trama and giving the same color reaction in Melzer's sol.; clamp connections present but rare. (more)

Collybia strictipes Pk.

Habit, habitat and distribution: Cespitose-gregarious on fallen leaves, summer and fall, infrequent. (Sm.-15295).

Observations: As revived in KOH the hyphae of the pileus trama were seen to frequently have oval to spheroid refractive protoplasm-like bodies in their interior which took the phloxine stain. I do not know whether this is some sort of artifact or a characteristic of the species. (Note--check all collections in Herbarium).

Collybia (Colocybe?) cinnamomea sp. nov.

Pileus 8-12 mm. broad, convex, expanding to broadly convex or nearly plane, disc in some finally shallowly depressed, surface even, color fuscous-tan drying to pale dull cinnamon; odor and taste not recorded; lamellae broad, close, emarginate-adnexed, pale fuscous, drying more or less pale cinnamon like the pileus, edges concolorous; stipe 1-1.5 cm. long, 1.5 mm. thick, equal, base rounded-mycelioid, stuffed, thinly fibrillose as if from remains of a thin veil (subglabrous--Kauff.), apex pruinose.

Spores 7-8 x 4-5 μ , smooth, ellipsoid, hyaline, yellowish in Melzer's sol.; basidia four-spored, 20-24 x 6-7 μ , clavate, yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia scattered to rare, saccate to clavate, larger than basidia; gill trama interwoven, pale cinnamon in KOH; pileus trama pale cinnamon beneath a cuticle of inflated-pedicellate cells one deep (as in many species of *Psathyrella*); clamp connections none.

Habit, habitat and distribution: On soil in a greenhouse, C. H. Kauffman, Jan. 15, 1918, (Box was no. F. H. B. 22507) Washington, D. C.

Observations: I found no evidence to indicate that this was a pale-spored *Psathyrella*. The structure of the spores as well as the color appears typical of the hyaline, thin-walled type.

2. Group with cap cuticle not in
the form of a palisade or turf
of upright to decumbent cells
or filaments

- A. Spores bluish in iodine I
B. Spores yellowish in iodine. II

fallow #37

I

1. Growing on white pine cones; spores $3.5 \times 2 \mu$. C. myosura
1. Habitat various but not as above. 2
2. Typically lignicolous; pileus fuscous to
gray or pallid (violaceous in one). 3
2. Typically terrestrial or appearing so; pileus
reddish brown 7
3. Pileus violaceous at first; gills lilac, narrow
and crowded. C. myriadophylla
3. Not as above 4
4. Spores ellipsoid, smooth C. Sm-18103
4. Spores ellipsoid, roughened. C. Sm-38131
4. Spores ± globose. 5
5. On hardwood; spores $5-6 \mu$; pileus soon
umbilicate C. abundans
5. If on hardwood the spores smaller. 6
6. Spores $5-7 \times 5-5.5 \mu$; lamellae broad C. lacerata
6. Spores $3.5-4.5 \mu$; lamellae narrow;
pileus obtuse to flat C. familia

7. Stipe naked and shining; growing under redwood. C. umbonata

7. Stipe pruinose to fibrillose over the exposed
(above ground) portion 5

8. Pileus "rufus" (ferruginous) fresh; growing
under hardwoods; pleurocystidia 54-72 x

8-12 μ C. hygrophoroides

8. Pileus "verona brown" (dull vinaceous

cinnamon); pleurocystidia 20-30 x 6-8 μ . . C. Sm-34300

Collybia Myosura Fr. (Baespora--Singer) Sm.-704 & Sm.-10720

Pileus 2-10 (15) mm. broad, convex with an inrolled margin, becoming plane or \pm umbonate, surface moist, at first minutely pubescent, becoming more or less appressed fibrillose and the margin \pm downy-pubescent and at times closely striatulate before fading, color "vinaceous buff" on the disc, pallid ("tilleul buff") on margin, sometimes darkening to "Pecan brown" before fading; odor and taste not distinctive; lamellae crowded to close, narrow becoming broad, ventricose, free or attached by a line, "Tilleul buff" or a little darker, finally vinaceous buff, edges even; stipe 1-3 (10) cm. long, 0.5-1 mm. thick, equal with a white strigose vase, tough, densely white pubescent over all, concolorous with pileus beneath pubescence or merely grayer, often with a prolonged coarsely white mycelioid rooting base.

Spores minute, $3.5 \times 2 \mu$, oblong pale, bluish gray in Melzer's sol., smooth; basidia four-spored; pleurocystidia and cheilocystidia similar, abundant, $25-36 \times 7-12 \mu$, fusoid-ventricose to broadly ovate with pointed apices, yellowish in Melzer's sol.; gill trama somewhat interwoven, yellowish in Melzer's sol.; pileus trama with a compact cuticular zone of radial hyphae, floccose beneath, pilocystidia and free \pm erect hyphal tips numerous; the pilocystidia elongate-subfusoid; clamp connections present.

Habit, habitat and distribution: Scattered to gregarious on cones of white pine, Cades Cove, Tenn., Great Smoky Mts. National Park, Aug. 31, 1938, Coll. L. R. Hesler, Sm.-10720.

(more)

Sm.-10720

Observations: The pileocysts measure 5-9 μ in diam. but vary in length from 20 to 60 μ , it being difficult often to distinguish between undifferentiated hyphal tips and cystidia. Singer placed the species in "Pseudo-hiatula" and described the spores as not amyloid.

Collybia myriadophylla Pk.

Pileus (1.5) 2-4 cm. broad, convex to convex-papillate, margin incurved, expanding to plane or with a slight umbo, margin often wavy and elevated in age, surface moist and hygrophanous, lilac when very young and fresh but soon changing to lilac-umber to "deep livid brown", when faded \pm cinnamon buff to dingy clay color (especially in age), \pm unpolished when faded; flesh thin, cartilaginous, \pm concolorous with surface, odor and taste somewhat disagreeable but hardly distinctive; lamellae lilac to "light purple drab", crowded, narrow, tapered to the sterile cap margin, adnate to adnexed, edges even; stipe (1) 3-7 cm. long (1) 2-4 (5) mm. thick, colored like the gills but soon fading and dingy brownish, terete or compressed, surface \pm fibrillose, pruinose-furfuraceous above, \pm glabrescent but typically dull, cartilaginous-pliant.

Spores 4-5 x 3-3.5 μ , oblong to ellipsoid, smooth, blue in Melzer's sol.; basidia four-spored, pleurocystidia scattered to rare, 28-34 x 6-8 (10) μ , fusoid-ventricose to subcylindric, apices obtuse, hyaline, thin-walled, smooth or with adhering amorphous material; cheilocystidia scattered, \pm similar to pleurocystidia; gill trama interwoven, "glassy" revived in KOH, hyaline; pileus trama "glassy" in KOH, the hyphae \pm thick-walled, with a differentiated hypoderm over which is a ⁰poorly defined non-gelatinous pellicle from which some pileocystidia \pm similar to cheilocystidia arise; clamp connections present.

(more)

Sm.-37204

Habit, habitat and distribution: On wood of hardwoods or conifers, spring, summer and fall, not uncommon throughout the United States (Sm.-37204.)

Observations: Study again when fresh and check description carefully. Get color of spore print, not thick-walled hyphae and study distribution of cystidia.

Collybia lacerata (or a species near it) Sm.-18103

Pileus 1.5-4 cm. broad, convex with an inrolled broadly incurved margin when young, becoming plane or with the disc slightly depressed, surface glabrous and moist, translucent-striate when fresh but fading slowly, the disc appearing finely fibrillose under a lens, whitish to pale watery gray especially around the disc, sometimes becoming moderately dark watery gray, margin tending to become lacerated and wavy in age; flesh thin (1.5 mm. in disc), tapered evenly to the margin, concolorous with surface, pliant-cartilaginous, odor somewhat fragrant, taste strongly fungoid, unchanging when bruised; lamellae nearly subdistant (30-34 reach stipe,) 3 tiers of lamellulae, rounded adnate to subdecurrent, narrow to broad (3-5 mm.), horizontal, whitish, intervenose, edges even; stipe 4-6 cm. long, 3-6 mm. thick, equal or slightly enlarged either way, hollow, cartilaginous, pallid, concolorous with pileus, with scattered appressed white fibrils at first, soon glabrescent, base scarcely strigose.

Spores 6-7 x 4-4.5 μ , ellipsoid (some 5-5.5 x 4.5 μ appear subglobose but are probably immature), hyaline, pale bluish in Melzer's sol.; smooth; basidia 20-24 x 5-6 μ , pleurocystidia absent (rarely a few clavate cells 20-25 x 10-12 μ present); cheilocystidia none; gill trama parallel, subhymenium not distinctive, hyaline in KOH, the hyphae in the central area up to 30 μ broad; pileus trama hyaline in KOH, homogeneous, cuticular hyphae radial and appressed but not forming a sharply differentiated pellicle; hypodermal region not differentiated; clamp connections rare, (more)

Sm.-18103.

usually at base of basidium.

Habit, habitat and distribution: Cespitose-gregarious
on a fir log, McKenzie Pass, Ore., Oct. 29, 1941, Sm.-18103.

Observations:

Collybia Sm.-38131

Pileus 3-6 cm. broad, broadly convex with an inrolled margin, expanding to plane or disc shallowly depressed, surface evenly more or less cinnamon buff young, more or less pale fuscous in age (one old cap), drying more or less pinkish buff and unpolished in all; odor and taste not recorded; lamellae close, narrow, adnate whitish but concolorous with pileus as dried, some with brownish spots when fresh; stipe short, 1.5-4 cm. long, 3-6 mm. thick, solid, equal or enlarged at base, glabrous but more or less unpolished (dull) concolorous with pileus both when fresh and when dried.

Spores 5-6.5 x 4-5 μ , broadly ellipsoid, dark violet in Melzer's in the small warts which cover the surface, (no "plege" present); basidia 28-34 x more or less 6 μ , four-spored, most with oily content; pleurocystidia none; cheilocystidia present, 25-38 x 3-4.5 μ , filamentous and flexuous or occasional ones with straight neck, some more or less ventricose at base, smooth, hyaline, thin-walled; gill trama subparallel, hyaline, subhymenium inconspicuous; pileus trama homogeneous beneath a thin cuticular layer of appressed radial non-gelatinous hyphae (but not a true pellicle) of narrower diameter than those of flesh proper; clamp connections present.

Habit, habitat and distribution: On a cedar log, Tahquamenon Falls State Park, Mich., Aug. 22, 1951, Sm.-38131.

Observations: I mistook this for weathered specimens of *Collybia dryophila* in the field but made the notation that it was firmer in consistency.

Collybia abundans Peck.

Pileus (1) 1.5-3 (4.5) cm. broad, convex, the margin bent in at first, expanding to nearly plane with a depressed disc, grayish against a whitish background, innately fibrillose from gray fibrils, dry, in age often whitish with gray streaks or squamules, margin thin and finally quite lacerated; flesh thin, pallid, odor and taste not distinctive; lamellae adnate, narrow, close, white, veined at times; stipe 3-6 cm. long, 2-3 mm. thick, short, equal, glabrous, often curved, splitting readily, grayish or pallid.

Spores globose 3.5-5 (6) μ , bluish in Melzer's sol.; smooth; basidia four-spored; pleurocystidia and cheilocystidia none; gill trama hyaline, subparallel, cells 10-20 μ broad; pileus homogeneous but hyphae narrower toward surface, hyaline, a few hairs seen as pilocystidia; clamp connections present.

Habit, habitat and distribution: On decaying conifer and hardwood, abundant on latter substratum, late summer and fall. (Sm.-22138).

Observations:

Collybia lacerata (Larch)

Pileus 4-6 cm. broad, convex with an inrolled margin, soon broadly convex and the disc becoming depressed, glabrous or (under a lens) appressed-fibrillose, dull watery gray (near "drab") when moist, translucent-striate or streaked with fuscous lines, hygrophanous, pallid ashy gray and opaque when faded, margin very thin and soon lacerated or lobed, often quite irregular; flesh very thin and fragile, pallid when faded, odor and taste mild; lamellae broadly adnate to subdecurrent from a tooth, distant to subdistant, broad, veined at the base, dull gray, very thin and easily broken; stipe 3-5 cm. long, 3-4 mm. thick, equal, tubular, cartilaginous, with a white cottony mycelioid base, the remainder faintly pruinose at first but soon naked and polished, concolorous with the pileus or paler.

Spores 5-7 x 5-5.5 μ , subglobose to broadly ellipsoid, hyaline, smooth, blue in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia none; gill trama somewhat interwoven, yellowish brown in Melzer's sol.; pileus trama homogeneous, of rather broad interwoven hyphae, pellicle not distinctly differentiated, yellowish brown in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: On decaying wood of conifers, late summer and fall, rare but occurring throughout eastern North America where conifers are present.

Observations:

Collybia familia (Pk.) Sacc.

Pileus 2-4 cm. broad, convex becoming nearly plane, the margin incurved at first, surface glabrous, moist, opaque, pale fuliginous ("drab") fading to a paler dingier gray, margin finally becoming somewhat lacerated; flesh thin, cartilaginous, taste disagreeable; odor none or slight, watery gray becoming whitish; lamellae crowded, narrow, adnate, seceding, dull cinereous but finally pallid, edges serrulate; stipe 4-8 cm. long, 2-3.5 mm. thick, equal, or nearly so, brittle-cartilaginous, concolorous with the pileus, very finely pubescent to apex, base white mycelioid.

Spores globose, 3.5-4.5 μ , smooth (or under a good oil-immersion with a slight unevenness), bluish in Melzer's sol.; basidia four-spored, 16-22 \times 5-6 μ ; pleurocystidia and cheilocystidia none; gill trama parallel, yellowish in Melzer's sol.; subhymenium not distinctive; pileus trama homogeneous beneath a compact pellicle of appressed narrow hyphae from which arise numerous clavate pilocystidia hyaline in KOH; tramal body yellowish in iodine; clamp connections present.

Habit, habitat and distribution: Gespitose on conifer logs, eastern North America, late summer and fall, often abundant.

Observations: The pilocystidia are best observed on young fruiting bodies and probably have a fuliginous content when fresh.

Collybia umbonata Peck. (Sm.-3683)

Pileus 4-8 (10) cm. broad, obtusely conic, becoming expanded and conspicuously umbonate, faintly fibrillose-pruinose under a lens, soon glabrous, "chestnut-brown" on the disc, "hazel" toward the margin, at times "russet" or "bay" on the umbo and "buckthorn brown" near margin (chestnut color to bay or russet on disc and dull yellow brown over marginal area), hygrophanous, fading to "warm buff" near margin, the disc remaining somewhat darker, surface smooth to radially rugulose; flesh thick under the umbo, tapering gradually to the margin, dingy tan, pliant, cartilaginous, odor and taste not distinctive; lamellae close, narrowly and deeply adnexed, broad, tapering evenly to the margin, pale buff ("warm buff") becoming slightly darker, edge slightly uneven, at times slowly changing to brownish when bruised; stipe 8-10 (12) cm. long, 6-10 mm. thick, strict, glabrous and equal above a long pseudorhiza, smooth or at times twisted and striate due to longitudinal splitting of cuticle, concolorous with pileus or more yellowish brown, hollow, very cartilaginous.

Spores 5-6 x 3 μ , smooth hyaline, ellipsoid, blue in Melzer's sol.; basidia four-spored, 20-22 x 4.5-5 μ ; pleurocystidia abundant, 55-95 x 8-15 μ , fusoid-ventricose with subacute apices, thin-walled, smooth, hyaline in KOH; cheilocystidia similar to pleurocystidia or some with slightly thickened wall in the ventricose portion; gill trama parallel, dingy in KOH; pileus trama with a thin pellicle of narrow (3-5 μ) appressed hyphae from which numerous hyaline pilo-
(more)

Sn.- 3683

cystidia 40-80 x 8-11 μ arise (the pilocystidia subcylindric with only subacute apices), beneath the pellicle a differentiated hypoderm of hyphae up to 20 μ in diam.; the remainder floccose and interwoven, pigment located in region under hypoderm (as seen in KOH); clamp connections present.

Habit, habitat and distribution: Single to gregarious under redwood, Prairie Creek State Park, Oris, Calif., Nov. 30 (3683), Dec. 3, (3733), and Dec. 4, 1935 (3770).

Observations: The "amyloid" spores relate it to C. hygrophoroides.

Does type have corticated pileus?

Collybia hygrophoroides (Peck) Saccardo, Sylloge Fung.,
9:31. 1891.

Agaricus hygrophoroides Peck, Ann. Rep. N. Y. State Mus.,
32:26. 1880.

Gyranoporus hygrophoroides Murrill, North Amer. Flora, 9:362.
1916.

Pileus 3-7 cm. broad, obtusely to sharply conic at first, rarely convex, the margin distinctly incurved, pruinose, expanding to broadly conic or plane and with or without a conic umbo, margin often becoming elevated and wavy and usually irregular or lobed, surface smooth, glabrous and polished, moist, opaque when young but translucent striate on the margin at maturity, color evenly "burnt sienna" to "rufus", becoming paler and in age near "avellaneous" (dull red fading to avellaneous), subhygrophanous; flesh thin, rather brittle, sordid pinkish buff but becoming paler, odor none or faintly fragrant, taste mild; lamellae close to crowded, 45-53 reach the stipe, 3 tiers of lamellulae, nearly free, deeply unciniate or attached only by a tooth, narrow, becoming moderately broad, edges even or slightly eroded, faces pale vinaceous ("light vinaceous cinnamon" to "vinaceous cinnamon"); stipe 4-13 cm. long, 3-9 mm. thick, equal above a long tapered pseudorhize, solid, developing a poorly defined cavity in age, surface usually longitudinally twisted striate and moderately pliant, and evenly pruinose over the exposed portion, concolorous with the gills.

Spores white in mass, 4.5-5.5 (6.5) \times 2.5-3 (3.5) μ , ellipsoid, smooth, blue in Melzer's sol.; basidia 18-22 \times 5-6 μ , four-spored; pleurocystidia abundant, fusoid, hyaline,
(more)

Collybia hygrophoroides (Peck)

thin-walled, 54-72 x 8-12 μ ; cheilocystidia similar to pleurocystidia or more ventricose, some saccate and with obtuse to pointed apices, 38-46 x 15-20 μ ; gill trama homogeneous, the hyphae more or less regularly arranged, tinged pale cinnamon in KOH mounts; pileus trama homogeneous and pale sordid yellowish brown in KOH, pellicle subgelatinous and very poorly differentiated, hyphae 3-5 (6) μ in diam., and radially arranged; both gill and pileus trama reddish brown in iodine; clamp connections present.

Habit, habitat and distribution: Gregarious on soil in grassy oak woods, Ann Arbor, Mich., June 1, 1940, Sm.-15046.

Discussion: The prominent pleurocystidia are a striking character. The gills of dried specimens became evenly pale vinaceous.

Collybia Sm. 34300

Pileus 2-5.5 cm. broad, conic with an inrolled margin when young, expanding to campanulate or plane with a conic umbo, in age margin becoming elevated or recurved, surface glabrous and shining, lubricous to viscid when wet, hygrophanous but opaque when moist, occasionally zoned near the margin, near "Verona brown" moist, "pinkish buff" or near that when faded, fading on disc first; flesh pallid, cartilaginous, odor and taste none; lamellae crowded, narrow to moderately broad, depressed-adnate to nearly free, "pale vinaceous fawn" young, soon darker vinaceous brown and edges staining dark vinaceous brown in moist; stipe 4-10 cm. long, 3-7 mm. at apex, narrowed downward or equal to the rooting base, often twisted and in moist covered by a grayish fibrillose-pruinose coating at first, glabrescent and the dark Verona brown to Natal brown color evident.

Spores 4.5-5.5 x 2.5-3 μ , blue in Melzer's sol.; narrowly elliptic, smooth; basidia four-spored, 20-22 x 4-5 μ , hyaline in KOH; pleurocystidia scattered to rare, narrowly fusoid, 20-30 x 6-8 μ , hyaline, projecting only slightly; cheilocystidia similar to pleurocystidia or elliptic to clavate and brownish in KOH, 22-30 x 8-12 μ ; gill trama somewhat interwoven, hyaline in KOH; pileus trama with a thin gelatinous pellicle (revived in KOH), a colored band of floccose hyphae beneath this and the remainder hyaline and floccose; clamp connections present.

(more)

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Sm.-34300

Habit, habitat, and distribution: Gregarious on old conifer logs or buried conifer wood, Univ. of Wyoming Science Camp, Medicine Bow Mts., Wyo., June 21, 1950, coll. by Eugene Cronin (Sm.-34300).

Observations: This species is close to C. hygrophoroides but is readily distinguished by the habitat, small pleuro- and cheilocystidia, possibly by smaller spores, and by the duller colors.

II

1. Spores at least slightly roughened (stain with phloxine and use oil immersion) A.
1. Spores smooth B.

follows 48

II-A

1. Spores less than 5 μ long and less than 3.6 μ broad 2
1. Spores larger in at least one of the dimensions 3
 2. Pileus 3-7 mm., broad, gray C. Sm-32769
 2. Pileus 10-15 mm., chalk white C. Hesler 16629
3. Pileus lubricous and whitish C. Sm-26592
3. Not as above. 4
 4. Stipe glabrous, fuscous below. C. Sm-29010
 4. Not as above 5
5. Gills grayish to ochraceous when young. 6
5. Gills pinkish buff to vinaceous. 7
 6. Stipe "amber brown" young C. Sm-3115
 6. Stipe silvery gray at first C. olympiana
7. Spores (under oil) both angular-elliptic and roughened with tubercles C. Sm-39195
7. Not as above 8
 8. Spores 6-8 x 4-5 μ 9
 8. Spores 5-6 x 3.5-4 μ 10
9. Lamellae "pinkish buff"; pileus "pinkish cinnamon" to "clay color" moist C. Sm-3925

9. Lamellae "light ochraceous salmon"; pileus

"Hers orange" to "orange rufous" moist. C. Sm-495

10. Cheilocystidia filamentous; gills

"fawn color" C. Sm-37305

10. Cheilocystidia none; gills near "pale

pinkish buff" C. Sm. sublaticia

Collybia near ^{ca}raumosa (Sm.-32769).

Pileus 3-7 mm. broad, convex with an incurved margin, expanding to plane or slightly depressed, mouse color moist, fading to cinereous and then unpolished; flesh watery gray, odor and taste not distinctive; lamellae adnate with a tooth, thickish, moderately broad, edges even; stipe 1-1.5 cm. long, 1 mm. thick, equal smooth below and dark gray, paler and with scattered fibrils, glabrescent.

Spores 3-3.5 x more or less 2.5 μ , faintly uneven (under oil), broadly ellipsoid, hyaline in KOH, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia none; pileus trama homogeneous; clamp connections present.

Habit, habitat and distribution: Closely gregarious on humus, Mackinaw City hardwoods, July 29, 1949, Sm.-32769.

Observations: This is like C. ^{ca}raumosa but lacks the branches on the stipe and the spores under oil appear faintly roughened. Also, there was no sclerotium and no fungous remains. This appears related to "Tricholoma microsporum."

Collybia Hesler-18629

Pileus 10-15 m. broad, hemispheric-convex when young, margin curved, becoming broadly convex, at times broadly and obtusely umbonate, dry, not hygrophanous, dingy chalk white, disc more or less pale tawny, matted-fibrillose, even; flesh thin, moderately firm, whitish, odor mild or slightly farinaceous, taste farinaceous; lamellae emarginate-uncinate or deeply sinuate, at times nearly free, white, thickish, medium-broad, ventricose, many short, subdistant; stipe 3-6.5 cm. long, 1.5-2.5 mm. thick; "mouse gray" to "deep mouse gray", glaucous, slightly curved and crooked, equal, dry, hollow or stuffed, base matted white-mycelioid.

Spores 4-5 x 3.5 μ , broadly ellipsoid, faintly roughened (under oil), hyaline in KOH, in Melzer's sol. pale yellow to pale rusty brown; basidia 2-spored; pleurocystidia or imbedded and more or less fusoid (possibly 1-spored basidia); cheilocystidia none; gill trama interwoven; pileus trama homogeneous, hyaline in KOH; clamp connections present.

Habit, habitat and distribution: In deep humus, mixed hemlock-hardwoods, Indian Creek, Great Smoky Mts. National Park, Aug. 7, 1948, Hesler-18629.

Observations: The hymenium revived in KOH is pale ochraceous whereas the trama of the gills is hyaline. This species appears close to C. 32769.

Collybia Sm.-28592

Pileus 1-2 cm. broad, convex to obtuse with an inrolled margin, expanding to broadly convex, surface glabrous, naked, lubricous to subviscid when wet, margin becoming faintly striatulate, disc "tulleul buff" to a very pale watery gray, remainder milk-white; flesh moderately thick, firm, whitish and unchanging, odor and taste somewhat farinaceous; lamellae white (more so than pileus), close to crowded, bluntly adnate, edges becoming uneven (ascending-adnate in one old cap but in others horizontal); stipe 4-5 cm. long, 2.5-3.5 mm. at apex, equal, tubular, pallid within above, pale brownish below, surface pallid above (darker than gills), pruinose, faintly fibrillose below at first, glabrescent and \pm translucent.

Spores 6-7.5 \times 3.5-4 μ , narrowly ellipsoid, faintly roughened (under oil), hyaline, yellowish in Melzer's sol.; basidia four-spored, 25-30 \times 6-7 μ ; pleurocystidia and cheilocystidia none; gill trama parallel, hyaline, subhymenium faintly "glassy" but very narrow; pileus trama homogeneous beneath a poorly defined subgelatinous pellicle, clamp connections present but rare.

Habit, habitat and distribution: Gregarious under cottonwood, Troutdale, Ore., Nov. 7, 1947, Gruber & Smith 28592.

Observations: The slightly roughened spores generally pallid colors and lubricous pileus are distinctive.

Collybia Sm.-29010

Pileus 2-3 cm. broad, broadly convex to nearly plane but usually with a small obscure umbo, surface moist, pallid, avellaneous, glabrous, slightly translucent-striate when moist; flesh pallid, watery at first, soon floccose-dry, odor and taste strongly farinaceous; lamellae close to sub-distant, very broad, depressed adnate, whitish, becoming pale avellaneous, edges becoming eroded; stipe 2-3 cm. long, 1.5-3 mm. thick at apex, equal, hollow, cartilaginous, surface glabrous, silky-striate, grayish and darkening below.

Spores 7-9 (10) \times 4.5-5 (6) μ , minutely roughened, ovoid, hyaline in KOH, yellowish in Melzer's sol.; basidia four-spored, 28-34 \times 7-8 μ , hyaline in KOH, yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia none; gill trama parallel or nearly so, hyaline in KOH, yellowish in Melzer's sol.; pileus trama homogeneous, hyaline in KOH; clamp connections present.

Habit, habitat and distribution: Single to scattered on exposed soil such as road banks, etc. Longmire, Wash., July 14, 1948, Wm. B. Gruber, (Sm.-29010).

Observation: A pale non-descript species with rough spores. Get a spore deposit.

Collybia Sm.-3115 (near *nitellina*)

Pileus 10-20 mm. broad, convex or with a faint obtuse umbo, glabrous, disc nearly black (appearing as a sharply bounded almost eye-like spot), toward the margin "amber brown" or extreme margin near "ochraceous tawny" moist, hygrophanous, fading to "pinkish cinnamon" or "pinkish buff"; flesh thin, dark watery brown, taste decidedly farinaceous; lamellae close but not crowded, moderately broad, bluntly adnate, "avellaneous", edges even becoming slightly eroded; stipe 3-4 cm. long, 2-2.5 mm. thick, equal, "amber brown" above a white-mycelioid base, stuffed by a narrow pith, cortex within amber brown.

Spores 6-7.5 (8) \times 4.5-5 μ , ellipsoid, roughened (under oil), hyaline in KOH, yellowish in Melzer's sol.; basidia four-spored, content more or less oily-granular; gill trama more or less parallel, hyaline, yellowish in Melzer's sol.; subhymenium not distinctive; pileus trama homogeneous, more or less hyaline, surface hyphae more or less radial and appressed; clamp connections present.

Habit, habitat and distribution: Gregarious under conifers, Oct. 13, 1935, Lake Crescent, Wash., Sm.-3115.

Observations: This fungus is closely related to *C. nitellina* but differs in the avellaneous gills and fuscous disc of the pileus. The color of the spore-deposit should be obtained.

Collybia olympiana Smith, Cont. Univ. Mich. Herb.
Series No. 5, p. 13. 1941

Pileus 1-2.5 cm. broad, convex or with a slight obtuse umbo when young, the margin incurved, becoming broadly convex, plane, or with a low obtuse umbo and a decurved margin in age, surface covered at first by a thin coating of silvery fibrils giving the cap a silvery gray appearance, "hair brown" to pale lead color beneath the fibrils, glabrescent or remaining faintly silky, the disc becoming "mummy brown" and the margin whitish or merely "avellaneous" over all, then gradually changing to brown and finally "ochraceous tawny" over margin and "cinnamon brown" over disc, translucent striate in age and then appearing hygrophanous, fading slowly; flesh thin, soft, concolorous with the surface, odor and taste strongly farinaceous; lamellae adnate, close (25-27 reach stipe), 2 tiers of lamellulae, broad and becoming ventricose (13 mm.), pallid cinereous becoming dingy brown, edges even; stipe 4-6 cm. long, 2-2.5 (3) mm. thick, equal and flexuous, cartilaginous, hollow, surface at first coated with pale silvery gray fibrils (like the pileus), appearing gray, at times squamulose above, slowly glabrescent, becoming dingy tawny in age, base sparsely fibrillose and deeply sunken in the substratum, no sclerotium present.

Spores 6-7 x 4.5-5 μ , broadly ovoid, 6-7 x 4.5-5 μ , ellipsoid to ovoid, minutely echinulate, yellowish in Melzer's sol.; white in deposit; basidia 26-28 x 8-9 μ , four-spored; pleurocystidia and cheilocystidia none; gill trama

(more)

Collybia olympiana

parallel or nearly so, dingy pallid cinnamon in KOH, yellowish in Melzer's sol.; pileus trama homogeneous beneath a pellicular region of slightly narrower cells than those of remainder of trama, dingy pallid in KOH or faintly cinnamon; yellowish brown in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Gregarious on very decayed remains of a fungous fruiting body, summer and fall. It is known from Washington and from the province of Ontario in Canada.

Observations:

Collybia Sm.-39195 near nitellina

Pileus 2.5-3.5 (5.5) cm. broad, obtuse with an in-rolled margin, expanding to nearly plane or retaining an obtuse umbo, surface glabrous, lubricous but not viscid, subhygrophanous, when moist "chestnut" or nearly so (deep red-brown), fading to dingy orange buff; flesh firm, watery and concolorous with pileus, odor and taste strongly farinaceous; lamellae close, adnexed, narrow to moderately broad, "pinkish buff", edges even; stipe 2-4 cm. long, 3-5 (11) mm. thick at apex, enlarged downward, concolorous or a little paler than the pileus and at first thinly coated with an evanescent layer of pale vinaceous fibrils, glabrescent, base with white rhizomorphs.

Spore deposit pale dingy vinaceous; spores 5.5-6.5 x 3-3.6 μ , fresh spores appearing smooth, but spores from deposits when revived in KOH and viewed under oil seen to be distinctly angular-elliptic but also covered with low tubercles which contribute to the angularity when spore is viewed in optical section, yellowish in Melzer's sol.; basidia four-spored, 22-25 x 5-6 μ , content oily-granular; pleurocystidia none; cheilocystidia none; gill trama parallel, hyphae 5-12 μ in diam. and cross walls rather frequent; pileus trama practically homogeneous, pellicular region slightly gelatinous in KOH but no true pellicle present, in fresh sections the upper region orange-brown but pigment layer not sharply defined; clamp connections present.

Habit, habitat and distribution: Gregarious on a rotten log, Pellston Hardwoods, Pellston, Mich., (Emmet Co.), July 20,

(more)

Sm.-39195

1952, Sm.-39195 and Aug. 10, 1952, Sm.-39419.

Observations: This fungus appears to be a close relative of Collybia nitellina in color, taste, odor, and color of spore deposit but its spores are more angular, the habitat is truly lignicolous, and the stature generally more robust. (See Rhodophy^{axi}llus, #76 for another related species.)

Collybia Sm.-3925

Pileus 1-2 cm. broad, convex with an incurved margin, expanding to plane or nearly so, glabrous, hygrophanous, disc "pinkish cinnamon", margin "cinnamon" to "clay color" fading to pinkish buff (not rufous to testaceous moist) translucent striate moist; flesh thin, fragile, odor and taste farinaceous; lamellae broad, subdistant, bluntly adnate, "pinkish buff" or near it, edges even; stipe 5-6 cm. long, 1-2 mm. thick, stuffed, equal, apex pruinose, naked below, concolorous with pileus or slightly paler.

Spore deposit not obtained, spores 6-7 x 4-4.5 μ , ellipsoid, slightly roughened, hyaline in KOH, yellowish in Melzer's sol.; basidia four-spored, 26-30 x 6-7 μ , content oily-granular; pleurocystidia none; cheilocystidia none; gill trama somewhat interwoven, hyaline in KOH, subhymenium not distinctive; pileus trama homogeneous, yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Single to scattered, under conifers, North Fork, Mad River, northern California, Dec. 9, 1935, Sm.-3925.

Observations: This species does not appear to be closely related to C. olympiana. It is, perhaps, a member of the C. nitellina group, but a spore print is needed to verify such a relationship.

Collybia nitellina? (see #26 in *Rhodopaxillus* key also)
Sm.-4898

Pileus 2- cm. broad, convex, margin incurved at first, expanding to plane or margin arched and disc depressed, glabrous, moist, hygrophanous, "Wax orange" or "orange rufous" fading to pale orange buff, margin not striatulate; flesh "orange rufous" fading to "orange buff", thin, fragile, odor faint, taste decidedly farinaceous; lamellae moderately close to subdistant, thin, bluntly adnate, broad, tapering toward the margin, "light ochraceous salmon", obscurely orange spotted as though changing color when bruised; stipe 4 cm. long, 4 mm. thick, concolorous with pileus, apex pruinose to fibrillose-punctate, equal, hollow, translucent before fading.

Spores 6-8 x 4-5 μ , ellipsoid, roughened slightly, yellowish in Melzer's sol.; basidia four-spored, 26-30 x 7-8 μ ; pleurocystidia none; cheilocystidia none; gill trama parallel, yellow in Melzer's sol.; pileus trama homogeneous yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Single in mixed woods, Bear Island, Lake Timagami, Ont., Sept. 13, 1936. Sm.-4898.

Observations:

Collybia Sm.-37305

Pileus 10-25 mm, broad, obtuse, expanding to plano-umbonate, glabrous, moist, hygrophanous, "burnt umber" to "Natal brown" fading to dingy tan or paler, fading on the disc first; flesh cartilaginous, concolorous with surface moist or faded, odor farinaceous, taste very strongly farinaceous; lamellae broad, depressed-adenate, close, "fawn color" or duller, thickish, edges even; stipe 2-5 cm. long 1-2.5 mm. thick, equal or nearly so, glabrous and cartilaginous, concolorous with pileus and hardly fading.

Spores pinkish in deposit, $5-6 \times 4 \mu$, drop shaped, minutely roughened, yellowish in Melzer's sol.; basidia four-spored, $23-27 \times 5-6 \mu$, yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia sporadic, filamentous and crooked, $26-35 \times 3-4.5 \mu$; gill trama somewhat interwoven and dingy brownish in KOH, subhymenium not distinctive; pileus with a cuticular zone of radial hyphae with short broad (10-15 μ) cells, dingy in KOH, tramal body of interwoven cells of smaller diameter; clamp connections present.

Habit, habitat and distribution: Gregarious on very rotten logs, Tahquamenon Falls State Park, Mich., July 30, 1961, Sm.-37305.

Observations: This species is close to *C. nitellina* but distinct on smaller spores and duller colors.

Collybia sublatericia Murrill

Sm.-2584

Pileus 1-2 (3.5) cm. broad, convex, becoming broadly convex with or without a slight central depression, glabrous, hygrophanous (but opaque when moist), "chestnut brown" to "burnt umber" and gradually becoming "testaceous" before fading, fading to near "pinkish cinnamon"; flesh thin, firm, brittle, odor sharp and strong, taste strongly farinaceous; lamellae close, moderately broad, bluntly edguate, near "pale pinkish buff", edges even; stipe 2-4 cm. long, 2-3.5 mm. thick, tubular, equal, fragile, cartilaginous brittle, concolorous with pileus or paler, glabrous or minutely fibrillose-pruinose near apex.

Spores vinaceous buff in deposit, hyaline in KOH, 5.5-6.4 x 3.5-4 μ , yellowish in Melzer's sol.; very faintly roughened (surface uneven--but not warty or echinulate); basidia four-spored, 20-25 x 6-7 μ ; pleurocystidia and cheilocystidia none; gill trama parallel, subhymenium ramose-interwoven; pileus trama homogeneous, pallid buff in KOH; clamp connections present.

Habit, habitat and distribution: Scattered in grassy places under alder, Sept. 24, 1935, Sm.-2584, Crescent Beach, Wash. (near Joyce, Wash.)

Observations:

II - B

1. Cheilocystidia present ^(+ not filamentous) 2
1. Cheilocystidia merely filamentous or absent. 8
 2. Spores globose 4-5 μ G. Sm-29313
 2. Not as above 3
3. Spores 12-16 x 3.5-4 μ G. flaccida
3. Spores smaller 4
 4. Pleurocystidia 40-60 x 9-12 μ G. Sm-36852 -p. 51
 4. Pleurocystidia absent. 5
5. Many cheilocystidia clavate-echinulate as
in Mycena G. Sm-13559 (agricola?)
5. Not as above. 6
 6. Pileus whitish to pinkish; on conifer
logs G. bakerensis
 6. Not as above 7
7. Pileus "bay" to "chestnut" fresh;
taste nauseous G. lentiginos (54)
7. Pileus "cinnamon" to "clay color"; taste
mild G. Sm-10141
8. On decayed remains of fungous fruiting bodies. 9
 8. Not as above 11
9. Stipe covered with irregularly arranged branch-like
protuberances. G. racemosa
9. Stipe not as above 10
 10. Sclerotium (in substratum) yellowish. G. cookii
 10. Sclerotium dark colored (apple-seed-like) . G. tuberosa

10. No sclerotium present C. cirrhata
11. Pileus yellow to yellow-brown; gills yellow;
on conifer wood; basidia with vinaceous
granules when revived in KOH 12
11. Not as above 13
12. Lamellae broad. C. Sm-13659
12. Lamellae narrow C. Sm-32-440; 3133 & 9000
13. Gills thickish (almost waxy) 14
13. Gills thin on edges 20
14. Stipe radiating; odor of benzaldehyde;
 spores globose C. subaulcatipes
14. Not as above. 15
15. Pileus ± olive brown at first. 16
15. Pileus some other color. 17
16. Clamp connections absent; gills pallid
 to gray. C. olivaceobrunnea
16. Clamp connections present; gills dingy
 yellow C. Sm-29810
17. Taste and odor farinaceous. C. Sm-3314
17. Not as above. 18
18. Odor and taste not distinctive (C. alba
 may key here also) C. Sm-29985
18. Taste bitter (slowly in some). 19
19. Pileus "verona brown" moist and hygrophanous;
spores 6-7.5 x 5-5.5 μ (C. 8438 may key here
also) C. Sm-36850

19. Pileus "wood brown" to avellaneous; spores
7-9 x 4.5-5.5 μ ; pileus \pm furfuraceous. C. Sm-28845 & 29078
19. Pileus "tawny olive"; spores 8-10 x 4.5 μ C. Sm-3431
20. Gills vinaceous or becoming flushed
vinaceous, or carpophore variously spotted
with red or red-brown. 21
20. Not as above. 32
21. Pileus when young dark \pm red-brown 22
21. Pileus pallid to vinaceous buff or pale tan. 26
22. Densely oespitose; stipes "bound together"
in a bundle of mycelial fibrils. C. acervata
22. Not as above. 23
23. Odor distinctly aromatic C. oregonensis
23. Odor not distinctive 24
24. Spores 3-4.5 x 3-4 μ , globose to
subglobose. C. badiialba
24. Spores longer in relation to their length. 25
25. Stipe white-pubescent over all; terrestrial. . C. Sm-29503
25. Stipe glabrous; on conifer wood. C. extuberans
26. Spores typically globose to subglobose. 27
26. Spores typically ellipsoid. 28
27. Gills white to pallid at first C. maculata maculata
27. Gills yellow at first. C. maculata var. scarzonerea
(forms of)
28. Gills yellow at first. C. maculata var. scarzonerea f.
scarzonerea.
28. Gills whitish at first. 29

29. Odor strong of musk Q. maculata var. moschata
29. Odor not distinctive. 30
30. Lamellae broad and subdistant; on hardwood
or near it. Q. Sm-26470
30. Lamellae narrow and close (if broad in age,
then occurring on conifer wood) 31
31. Copious mycelium around base of carpophores
(as in Leucopaxillus) Q. Sm-19065
31. Not as above Q. maculata var. occidentalis
32. Spores $4 \times 2 \mu$; lamellae broad & distant,
cinnamon buff to clay color; clamps
absent. Q. Sm-10023
32. Not as above. 33
33. Taste farinaceous or \pm resembling garlic 34
33. Taste mild to disagreeable (bitterish) 37
34. Taste of spoiled garlic. Q. polyphylla
34. Taste farinaceous. 35
35. Gregarious on sphagnum. Q. expellens
35. Not as above. 36
36. Clamp connections absent (or at least very
rare); consistency very soft Q. Sm-38971
36. Clamp connections readily demonstrated;
consistency pliant-cartilaginous Q. Sm-40009
37. Stipe velvety to pubescent over all. 38
37. Stipe typically glabrous or silky-canescant. 39
38. Gills broad and subdistant. Q. cylindrospora
38. Gills crowded and narrow. Q. ^{h.} parvularum

39. Spores broadly ellipsoid to subglobose 40
39. Spores ellipsoid (length 2 times the diameter) 42
40. Spores 7-8 x 5-5.5 μ C. Sm-8438
40. Spores smaller 41
41. Pileus white when young; on oak C. alba
41. Pileus ferruginous. C. Sm-4036
42. Gills pale yellow to lemon yellow.
- C. dryophila var. luteifolia
42. Not as above 43
43. Pileus gray to gray brown; spores white
- in deposit C. asoma (95)
43. Pileus with more red and yellow than in above. 44
44. Spore deposit creamy yellowish; pileus
- dark red-brown. C. butyracea
44. Spore deposit white; pileus usually paler 45
45. Young caps "fawn color", 4-9 cm. broad mature;
- stipe pallid from a silky coating C. Sm-29130
45. Young caps dark rusty brown to ferruginous;
- stipe smooth, glabrous C. dryophila

Collybia Sm.-29313 (near *maculata*)

Pileus 3-8 cm. broad, obtuse with an inrolled margin, expanding to plane and margin slightly elevated and undulating, surface "Army brown" beneath a hoary coating of whitish silky fibrils, subhygrophanous and gradually fading to near "fawn color", appearing somewhat streaked after fading; flesh thin but firm, pallid, gradually tinged vinaceous, odor none, taste bitter and disagreeable; lamellae narrow, adnate, crowded, white but soon spotted vinaceous brown, edges eroded-serrate; stipe 6-8 cm. long, 8-10 mm. thick at apex, terete or compressed, hollow, surface pallid whitish and longitudinally grooved to merely striate, appressed silky and unpolished above, no pseudorhiza present.

Spores white in deposit, 4-4.5 μ , globose, smooth, yellowish-hyaline in Melzer's sol.; basidia four-spored, 18-24 \times 4-5 μ , hyaline; pleurocystidia none; cheilocystidia 20-30 \times 4-9 μ , filamentous-capitate to clavate or fusoid-ventricose, scattered to rare; gill trama parallel, hyaline in KOH, subhymenium not distinctive; pileus trama homogeneous loosely interwoven and \pm hyaline except for compactly arranged hyphae of cuticular region; clamp connections present.

Habit, habitat and distribution: Caespitose under alder, Lower Yakoma Creek, Mt. Rainier National Park, Wash., July 23, 1948, Sm.-29313.

Observations: This species appears to be closely related to *C. maculata* but the spores are white. Compare *C. badia* also;

Collybia flaccida Smith & Hesler, Jour. Elisha Mitchell
Sci. Soc, 56:306. 1940

Pileus 10-15 mm. broad, broadly convex to nearly plane, with an incurved margin at first, surface dry, uneven, glistening, distinctly grayish appressed-fibrillose under a lens, margin becoming sulcate, color dark ashy gray when moist, fading to very pale ashy gray; flesh membranous and soft, causing the pileus to be very flabby, pallid, odor and taste mild; lamellae adnate, horizontal, subdistant (18-22 reach the stipe), one tier of lamellulae, very narrow, pale ashy gray, edges pruinose under a lens; stipe 2-3 cm. long, 1 mm. or less thick, equal, lax, solid, pliant, whitish, sparsely pubescent under a lens, inserted on fallen dead twigs by a naked distinctly narrowed base.

Spores 12-16 \times 3.5-4 μ , hyaline, hyaline to yellowish in Melzer's sol.; smooth, narrowly drop-shaped to almost acicular (narrowed to hilar end and in side view slightly curved); basidia four-spored, 26-30 \times 7-8 μ , content homogeneous; pleurocystidia rare and mostly near gill edge, similar to cheilocystidia; cheilocystidia 80-60 \times 10-15 μ , fusoid-ventricose with subacute apices to subcylindric, smooth, occasionally branched, hyaline in KOH, yellowish in Melzer's sol.; gill trama interwoven, subhymenium not distinctive; hyaline in KOH and pallid yellow in Melzer's sol.; pileus trama homogeneous, hyaline in KOH, yellowish in Melzer's sol.; hyphae of cuticular region radial and appressed; clamp connections present; caulocystidia similar to cheilocystidia but longer and more irregular and more branched (3-4 times;)

Sm.-14873

stipe tissue yellow in Melzer's sol.

Habit, habitat and distribution: Scattered on fallen dead twigs, Cades Cove, Tenn., Great Smoky Mts. National Park, Tenn., Aug. 10, 1939 (Sm.-9864) and Aug. 17, 1939, coll. L. B. Overholts and A. H. Smith, Sm.-14873.

Observations:

31

Collybia Sm.-36852

Pileus 1-2.5 cm. broad, convex with a slightly depressed disc, glabrous, pallid when collected (probably hygrophanous) opaque; flesh thin, pallid, odor and taste not recorded; lamellae whitish, broadly adnate, very broad, close, seceding, white when young, hardly changing, edges even; stipe 2-3 cm. long, 2-3 mm. thick, equal, pallid, glabrous not darkening.

Spores 6-7 x 4-4.5 μ , ellipsoid, smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored, 20-23 x 5-6 μ ; pleurocystidia scattered, 40-60 x 9-12 μ , subcylindric to ventricose and having elongated necks and obtuse apices, content granular when fresh, homogeneous in KOH, smooth, thin-walled; cheilocystidia similar or more of them clavate; gill trama parallel, hyphae 9-15 μ in diam.; subhymenium not distinctive; pileus trama homogeneous, cuticular hyphae with very slight pigment incrustation (ochraceous); clamp connections present.

Habit, habitat and distribution: Gregarious on sand, Devereaux Lake, Mich., July 11, 1951, Sm.-36852.

Observations: The aspect of the fruiting body is that of a large Mycena bisphaerigera. The pleurocystidia, the non-amyloid spores and stature are distinctive.

Collybia Sm.-13559 (cf. C. agricola & C. Earlii)

Pileus 3-5.5 cm. broad, broadly convex to flat when young, the margin inrolled, when expanded flat or the margin raised slightly and undulating, surface glabrous, moist, hygrophanous, margin opaque at first but becoming striatulate near maturity before fading, color "burnt umber" or darker moist, fading to dingy pecan brown or buff pink (duller vinaceous shades in age); flesh concolorous with surface or paler, thin tapering evenly, pliant and moderately tough, odor and taste mild; lamellae close (38-43 reach the stipe), 2-3 tiers of lamellulae, deeply adnexed to nearly free, moderately broad (3-3.5 mm), when young "tulleul buff" but soon "fawn color" to dingy vinaceous tawny, edges even; stipe 2-3.5 cm. long, 2-4 mm. thick, equal or enlarged a bit below and flaring some above, smooth and polished, concolorous pallid vinaceous rhizomorphi present around the base.

Spores 5-6 x 2.5-3 μ , narrowly drop-shaped to elliptic, smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored, 18-22 x 4-5 μ ; pleurocystidia none; cheilocystidia abundant, globose-pedicellate to clavate, hyaline or slightly colored, smooth to minutely echinulate (as in *Mycena*), 20-30 x 10-16 μ ; gill trama somewhat interwoven, dingy pale ochraceous in KOH; pileus trama with a cuticular region of interwoven hyphae, 4-7 μ in diam. and with fuscous-brown pigment incrustated on walls, tramal body hyaline (in KOH); clamp connections present.

(more)

Collybia Sm.-13559

Habit, habitat and distribution: Gregarious on sand,
⁰
~~Half~~ River overflow, Spruce, Wash. (Olympic Peninsula), May
19, 1934, Sm.-13559.

Observations: This species is in the Collybia dryo-
phila group.

Collybia bakerensis Smith, Bull. Torrey Club. 71:395 1944

Pileus 2-4 cm. broad, broadly convex to obtuse when young, the margin curved in against the gills at first, expanded in age and then with or without a low umbo, in some the disc plane and the margin elevated, surface glabrous and moist, appearing appressed fibrillose under a lens when faded, sordid watery white when moist and some with a faint flush of incarnate, subshining when faded, opaque at all stages; flesh 3-4 mm. thick over the disc and tapering gradually to the margin, watery white, odor and taste mild; lamellae very narrow (1-1.5 mm.), very crowded (58-65 reach the stipe), 4-5 tiers of lamellulae, broadly adnate to short-decurrent, white or with a faint vinaceous flush, occasionally stained sordid yellowish where bruised, edges slightly eroded; stipe short and curved, 1-3 (4) cm. long, (2) 3-5 mm. thick, equal or slightly enlarged at the base, hollow, very pliant, white above, sordid pale vinaceous brown near the base, at first covered by a thin coating of white appressed fibrils, glabrescent, inserted onto the substratum.

Spores 4.5-5.5 x 3-3.5 μ , hyaline, smooth, broadly ellipsoid, not amyloid; basidia four-spored, 18-22 x 6-7 μ ; pleurocystidia not differentiated; cheilocystidia fasciculate to scattered, 24-36 x 6-10 μ , clavate, saccate or subcylindric, thin-walled and somewhat contorted or branched in age, hyaline and readily collapsing; gill trama subparallel, subhymenium thin and ramose; pileus trama homogeneous, the surface hyphae radially arranged, and more (more)

Collybia bakerensis

Sm-16273

compact than in the remainder of the trama; clamp connections present.

Habit, habitat and distribution: Single on conifer logs or scattered, Anderson Creek, Baker National Forest, Wash., Aug. 19, 1941, Sm.-16273.

Observations:

Collybia lentinoides PK. Sm.-33-1100 (mic. characters).

Pileus 2-4 cm. broad, convex with an incurved margin, becoming plane or very slightly depressed, not umbonate, subhygrophanous, glabrous, "Bay" or "chestnut" fading to "light ochraceous salmon" or "pinkish cinnamon" on disc, sordid "cinnamon" on margin, striatulate on margin when moist and mature; flesh reddish tan to white, soft and pubescent, odor none, taste nauseous; lamellae white, close, adnate to sinuate-adnate, narrow, edges serrate; stipe 2-4 cm. long 3-4 mm. thick, white, at first densely white-fibrillose, eventually longitudinally fibrous striate, soft and flesh but cortex thin and cartilaginous.

Spores white in deposit, 6-7 (8) \times 2.5-3 (3.5) μ , narrowly drop-shaped, suprahilar depression pronounced, smooth, yellowish in Melzer's sol.; basidia four-spored, 40-55 \times 5-6 μ , yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia basidium-like but larger than basidia (30-40 \times 8-10 μ); gill trama with a subparallel central strand but more interwoven toward the poorly defined subhymenium, hyaline in KOH; pileus trama homogeneous but surface hyphae subgelatinous in KOH and slightly narrower than those of tramal body, hyaline in KOH; yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Gregarious on moss at edge of burned area, Mud Lake Bog, Whitmore Lake, Mich., Sept. 28, 1933, Sm.-33-1100.

Observations:

Collybia

Sm.-10141

(near maculata)

Pileus 3-8 cm. broad, broadly convex to plane, margin incurved, expanding to plane or the margin wavy and up-lifted in age, "cinnamon" to "clay color" when moist not truly hygrophanous but fading to "pinkish buff" or pallid slowly, often areolate-cracked over the disc; flesh thick (3-4 mm.), white, rather tough and rubbery, odor and taste not distinctive; lamellae close to crowded, narrow, equal, sinuate to adnexed, whitish becoming pallid tan, in age dark dingy tan or with dingy tan spots, edges becoming eroded; stipe (3) 4-9 cm. long, (3) 4-8 (9) mm. thick, slightly enlarged toward base, solid, with a cartilaginous-tough cortex, more or less pubescent to appressed fibrillose over all, pinkish buff or more or less concolorous with pileus, base brown-tomentose in age.

Spores white in deposit, $7-9 \times 3.5-4$ (4.5) μ , narrowly elliptic, smooth, yellowish in Melzer's sol.; basidia four-spored, $23-26 \times 5-7 \mu$, content oily-granular; pleurocystidia none or rare and similar to cheilocystidia, the latter $26-34 \times 7-10 \mu$, fusoid-ventricose, mucronate, subcylindric with obtuse apices, often contorted, hyaline, thin-walled; gill trama hyaline, parallel; pileus homogeneous but with thin contorted filaments projecting 8-20 μ , these finally matted down; clamp connections present.

Habit, habitat and distribution: On sand under pine scattered to gregarious, Cades Cove, Tenn., Aug. 13, 1936, Sm.-10141.

Observations: This species has the aspect of Collybia

(more)

Sm.-10141

maculata but is even tougher in consistency than that species
and has a white spore deposit.

Collybia racemosa (Fr.) Sm.-3416

Pileus 3-10 mm. broad, obtusely conic becoming plane or with a slight obtuse umbo, surface dry and opaque, innately silky, "fuscous" to "drab", paler along margin, margin often curved in against the gills, in some collections straight; flesh very thin, fragile, \pm concolorous with surface, odor and taste not distinctive; lamellae broad, sharply and narrowly adnexed, close, "wood brown" to avellaneous, edges even; stipe 2-6 cm. long, \pm 1 mm. thick, equal above, base tapering to a rootlike process arising from a dull black sclerotium which is \pm globose and 3-6 mm. in diam. (in section sclerotium is watery grayish white and homogeneous), surface of above ground portion hair brown to fuscous, apex pruinose, lower portion covered with irregularly arranged short (2-3 x 0.5 mm) branch-like protuberances.

Spores 4-8 x \pm 2.5 μ , oblong, smooth, hyaline, yellowish in Melzer's sol.; basidia 4-spored, 17-20 x 3-4 μ , yellowish in Melzer's sol.; pleurocystidia and cheilocystidia none; gill trama somewhat interwoven, dull cinnamon revived in KOH; pileus trama homogeneous, colored like the gill trama; clamp connections present.

Habit, habitat and distribution: Gregarious on remains of carpophores of fleshy fungi, well decayed, rare. Found not uncommonly during wet seasons in the Pacific Northwest. (Lake Tabkenitch, Ore., Nov. 11, 1935, Sm.-3416).

Observations:

Collybia Cookii (Bres.) Arnold, Mycologia

Pileus 8-15 mm. broad, flat with an inrolled margin or very broadly convex, in age the disc often slightly depressed or margin elevated and often wavy, surface typically dry and somewhat whitish canescent due to a thin whitish fibrillose evanescent coating, whitish when young, soon "pale pinkish cinnamon" or disc darker (near "vinaceous buff"); flesh thin and pliant, pallid, odor and taste not distinctive; lamellae close but not crowded, (18-25 reach stipe) 3 tiers of lamellulae, narrow (± 1.5 mm.), pallid when young, flushed pale cinnamon pink in age; stipe 4-6 cm. long, $\pm 0.5-1$ mm. thick, equal, solid or with a very small tubule, concolorous with pileus ("pale pinkish cinnamon") or darker, with scattered appressed white fibrils at first but glabrescent, with coarse stringy fibrils at the base, arising from a flattened dull yellow glabrous sclerotium up to 1 cm. broad, interior of sclerotium pallid to cinnamon buff.

Spores $5-6.5 \times \pm 3.5 \mu$, ellipsoid, smooth, yellowish in Melzer's sol.; basidia four-spored, pleurocystidia and cheilocystidia none; gill trama somewhat interwoven, hyaline; pileus trama homogeneous, hyaline; clamp connections present.

Habit, habitat and distribution: Gregarious on the remains of carpophores of fleshy fungi, especially Armillaria mellea and Polyporus sulphureus. Common during years when these hosts fruit luxuriantly. It is known from the Pacific Northwest, the Great Lakes Region and Europe.

(more)

Collybia Cookii

Observations: It is readily distinguished from Collybia tuberosa by the globular pallid sclerotium.

Collybia tuberosa

Pileus 5-10 mm. broad, convex with an inrolled margin, expanding to plane or margin wavy, rarely with a low umbo, dry and unpolished, even, pallid to white, often tinged ochraceous or reddish; flesh thin, white, odor and taste not distinctive; lamellae adnate, thin, close, whitish, edges minutely pubescent (Kauff); stipe 5-20 mm. long, 1 mm. thick, flexuous, hollow, whitish or tinged like the pileus, covered with a thin pallid pulverulence, = glabrescent, arising from a reddish brown to blackish, apple-seed-like sclerotium 2-5 (10) mm. long and 2-3 mm. thick.

Spores elliptic 4-5.5 x 2.5-3 μ .

Habit, habitat and distribution: On remains of fleshy fungi, late summer and fall. Common.

Observations: Got a good description from fresh material.

Collybia cirrhata Sm.-19030

Pileus 5-12 mm. broad, broadly convex to papillate when young, margin incurved, nearly plane at maturity, surface moist at first but soon dry and hoary, opaque at all times, when moist pale avellaneous to "vinaceous buff" over all but soon becoming white from the margin inward, often more or less zonate when fading, with a hoary luster when faded; flesh thin, pliant, whitish, unchanging, odor and taste not distinctive; lamellae narrow, (\approx 1 mm.), adnate-seceding, pale vinaceous buff, close in large caps (15-20 reach stipe); subdistant in some real small caps, edges even; stipe 1-3 cm. long, 0.5-1.5 mm. thick, equal, base coarsely strigose with fascicles of white hairs, more or less hirsute to pubescent over lower half, glabrous above in age (pruinose at first).

Spores white in deposit, 3-4 x 2 μ , ellipsoid, smooth, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia none; gill trama interwoven, subhymenium not distinctive; pileus trama homogeneous; clamp connections present.

Habit, habitat and distribution: Gregarious on remains of decayed mushrooms, Bruin Run, Mt. Hood, Ore., Sept. 24, 1944, Sm.-19030.

Observations: It lacks sclerotia and can thus be readily distinguished from C. tuberosa and C. Cookii.

Collybia colorea ? Sm.-13659

Pileus 2-3.5 cm. broad, broadly convex with an inrolled margin, in age broadly convex, surface glabrous, moist and opaque or faintly striatulate on the margin, hygrophanous to subhygrophanous, "raw umber" to "antique brown" or dingy yellow along the margin, fading on disc first to near "clay color"; flesh thin, pliant, concolorous with surface moist, scarcely 1 mm. thick, odor and taste mild; lamellae close, 24-28 reach stipe, deeply and sharply adnexed, at times attached only by a tooth, broad (4-5 mm.), broadest at base and gradually tapered, dingy yellow ochre at all stages, edges even; stipe 2.5-4 cm. long, 2-3.5 mm. thick, equal, curved; hollow, cartilaginous, surface glabrous or with faint yellowish fibrils, concolorous with moist pileus.

Spores 6-7 x 4-4.5 μ , broadly ellipsoid, smooth, hyaline or many with a vinaceous red pigment globule or granule as revived in KOH and Melzer's sol. (pigment most evident in deposited spores), walls hyaline to yellowish in Melzer's sol.; basidia four-spored, 22-25 x 6-7.5 μ , vinaceous-red as revived in KOH, pigment diffuse and also in granules; pleurocystidia and cheilocystidia none; gill trama parallel, hyaline in KOH & Melzer's sol.; pileus trama homogeneous, surface hyphae radial and appressed; clamp connections absent.

Habit, habitat and distribution: Scattered on rotten hemlock, Forks, Wash., May 22, 1939, Sm.-13659.

Observations: Unquestionably a Calistosporium.

Collybia *Cuteoolivacea* (Ber. & Curt.) Sacc.?

Collybia colorea var. *rubescensifolia* PK. Sm.-32-440

Callistosporium cuteoolivaceum (Ber. & Curt.) Singer.

Pileus 8-15 mm. broad, convex or with a slightly depressed disc at first, becoming more deeply depressed in age, margin remaining decurved and thus giving the cap an arched area midway between disc and margin, surface dry, glabrous, "bay brown" but slowly paler and specked with yellowish patches, finally pale yellowish gray; odor and taste not recorded; lamellae close, narrow, "bay brown" or redder on margin, faces greenish yellow, equal, slightly decurrent; stipe 1-2 cm. long, 1-2 mm. thick, tubular, cartilaginous, fibrillose from yellowish fibrils, slightly bulbous at base which is yellow mycelioid, greenish yellow near apex, vinaceous yellow lower down.

Spores 5-6 x 3 μ , ellipsoid, smooth when revived in KOH with one or more pigment bodies of a dull vinaceous color, pigment body also shining in Melzer's reagent, walls yellowish in Melzer's; basidia four-spored, 18-23 x 4-5 μ , vinaceous red as revived in KOH; pleurocystidia none; cheilocystidia filamentous, 25-35 x 3-4 μ , content vinaceous red in KOH; gill trama parallel, pinkish to pale vinaceous in KOH; pileus trama homogeneous, pallid, no differentiation in cuticular region; clamp connections absent.

Habit, habitat and distribution: Gregarious on old oak stump, Duck Lake, Washtenaw County, Mich, Sept. 15, 1932, Sm.-32-440.

Observations: The color reaction of dried material in

Sm.-32-440

KOH resembles that observed for the *Cortinarius cinnamomeus* series.

Collybia Sm.-9000 (near colorea)

Pileus 2.5-4.5 cm. broad, broadly convex with an incurved margin, nearly plane at maturity, glabrous, margin opaque or faintly striatulate moist, "bister" on disc, "tawny olive" on margin; flesh concolorous with surface moist, very firm and rigid, odor and taste mild; lamellae close, narrow, adnexed, equal "deep Colonial buff" but often paler (less olive) in age, edges even; stipe 3-5 cm. long, 8-12 mm. thick, enlarged above, hollow, very cartilaginous and tough, concolorous with pileus, apex scarcely paler, glabrous but faintly innately striatulate, base with yellowish mycelium.

Spores 5-6 x 4-4.5 μ , broadly ellipsoid, hyaline in KOH or rarely one with vinaceous pigment granule, yellowish in Melzer's sol.; basidia 4-spored, many with vinaceous red precipitate or diffuse pigment; pleurocystidia and cheilocystidia absent; gill trama 3 parallel; pileus trama homogeneous; clamp connections absent.

Habit, habitat and distribution: Scattered on roots of a conifer stump (spruce?), Crescent City, Calif., Nov. 22, 1937, Sm.-9000.

Observation: This is the form or species with close narrow gills. The spores showed much less pigment than in the broad-gilled form.

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Collybia Sm.-3133

Pileus 2-3.5 cm. broad, broadly convex to nearly plane at maturity, margin remaining incurved until near maturity, glabrous, opaque when moist, color "buffy olive" to "Isabella color" on the margin, brownish olive on disc (disc darker); flesh thin, hardly tapering, dark brownish olive, rather cartilaginous, taste slight, odor none; lamellae "olive ochre" becoming "chamois", rather broadly adnexed, narrow, moderately close, narrow, edges even; stipe 3-4 cm. long, 3-4 mm. thick, dark olive brown (concolorous with pileus) covered by faint olivaceous fibrils below, apex pruinose, tubular, cartilaginous, flesh olive brown.

Spores 5-6 x 4-4.5 μ , broadly ellipsoid, smooth, hyaline or with vinaceous red globules in KOH, in Melzer's sol. with yellowish wall and often with red pigment granule; basidia four-spored, often with vinaceous red precipitated pigment or pigment diffused; pleurocystidia and cheilocystidia none; gill trama hyaline to flushed vinaceous in KOH and yellowish in Melzer's sol.; somewhat interwoven; pileus trama homogeneous flushed pallid vinaceous in KOH; clamp connections absent.

Habit, habitat and distribution: Gregarious on old logs, Lake Crescent, Wash., Oct. 14, 1935, Sm.-3133

Observations: A true Callistosporium.

Collybia subsulcatipes Smith, Bull. Torrey Club. 71:396. 1944.

Pileus 5.5-8 cm. broad, obtuse with an inrolled margin, becoming gibbous or plane, in age the margin recurved or elevated and frequently splitting, surface moist and polished, margin translucent striate, hygrophanous and opaque when faded, when young "army-brown" to "vinaceous fawn" over all, disc becoming "russet-vinaceous" and margin "deep brownish vinaceous" (dark to pale vinaceous brown), fading to a "pale vinaceous buff" (pallid vinaceous); flesh thin (2-3 mm.), equal, firm and cartilaginous, concolorous with surface of pileus, odor faint but heavy and aromatic (somewhat like that of benzaldehyde) very distinctive; taste mild; lamellae close to nearly subdistant, 46-54 reach the stipe, 1-3 tiers of lamellulae, the lamellulae quite irregular in arrangement, broad (1 cm. more or less), becoming slightly ventricose, depressed adnate to nearly free, color "pale grayish vinaceous" becoming "light russet-vinaceous" (gray with a tinge of vinaceous when young, becoming distinctly dull vinaceous in age), faces glaucous, edges thickish and even; stipe 6-10 (15) cm. long, 10-16 mm. thick at apex, tapered downward to a long pseudorhiza, solid and fibrous within, apex more or less concolorous with the pileus, becoming very dark sordid vinaceous brown from the base upward in age, surface pruinose but soon polished, smooth or longitudinally grooved to subsulcate.

Spores globose to subglobose, hyaline, 5-5.5 x 4.5-5 μ , smooth, not amyloid; basidia four-spored, 28-34 x 4.5-6 μ

(more)

Collybia subseulcatipes

long, slender and subclavate, pleuro-and cheilocystidia not differentiated, gill trama parallel to subparallel, the hyphae more or less cylindric; pileus trama with a thin pellicle or radially arranged subgelatinous hyphae 3-4 μ in diam., remainder floccose, the hyphae 5-15 μ in diam.

Habit, habitat and distribution: Gregarious on humus, Storm King Mt., Olympic National Park, Wash., Oct. 5, 1941, (Helen V. & A. H. Smith 17566); same locality again, Oct. 16, Sm.-17562.

Collybia olivaceobrunnea Smith & Hesler, Jour. Elisha Mitchell
Sci. Soc., 56:309, 1940.

Pileus 2-4 cm. broad, convex with an inrolled margin when young, broadly convex to plane at maturity, the margin often elevated in age and becoming sulcate or crenate, occasionally the disc sharply depressed, surface moist and glabrous, appearing minutely fibrillose-canescient when faded but no fibrils visible under a lens except in old specimens, hygrophanous, "olive brown" or darker and more grayish when fresh, becoming "buffy brown" before fading, cinereous with an olive cast when faded; flesh fragile, fuliginous becoming whitish, thin, odor and taste mild; lamellae depressed adnate, subdistant, 1-2 tiers of lamellulae, broad, "olive buff" at first, nearly concolorous with pileus in age, thickish, veined, edges even; stipe 4-5 cm. long, 3-6 mm. thick, equal, stuffed cartilaginous, concolorous with the pileus or pallid near the apex, longitudinally appressed fibrillose, glabrescent, base white mycelioid and with numerous white rhizomorphs.

Spores 6.5-8 x 4-5 μ , smooth, yellowish in Melzer's sol., ellipsoid; basidia 28-32 x 6-7 μ , yellowish in Melzer's sol.; pleurocystidia and cheilocystidia none; gill trama parallel, hyaline in KOH, yellowish in Melzer's sol.; subhymenium not distinctive; pileus trama homogeneous, the surface region grayish to fuliginous in KOH, paler toward gill trama, gradually fading on standing, cuticular hyphae \perp radial, some clavate pileocystidia present, 30-45 x 8-12 μ ; clamp connections absent.

(more)

Collybia olivaceobrunnea

Habit, habitat and distribution: Scattered on old oak stumps and logs, Eastern United States, summer and fall.

Observations: The lack of clamp connections is unusual in *Collybia*.

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Collybia Sm.-29810

Pileus 2-3.5 cm. broad, convex-depressed with an incurved margin, expanding to broadly convex with a small shallow depression, surface glabrous, moist and hygrophanous, near "buffy brown" to "deep olive buff" fresh, fading to "pale olive buff" or grayer, margin long remaining moist and striatulate; flesh watery yellowish fading to pallid, odor and taste not distinctive; lamellae broad, thickish, broadly adnate becoming slightly depressed in some, subdistant, pale dingy yellows (grayer than "chamois"), edges even; stipe 3-5 cm. long, 3-5 mm. thick, equal, or slightly enlarged downward, glabrous, hollow, fragile, terete or compressed, with whitish mycelium at base, apex concolorous with the gills or grayer, darker dingy brown downward.

Spores 5.5-6 \times 3.5 μ , narrowly ellipsoid, smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored, 26-30 \times 6-7.5 μ , hyaline in KOH; pleurocystidia none; cheilocystidia none; gill trama interwoven to subparallel, hyaline in KOH, yellowish in Melzer's sol.; pileus trama homogeneous, hyaline to dingy yellowish in KOH, yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Scattered on very decayed wood, Lower Kantz Creek, Mt. Rainier National Park, Aug. 4, 1943, Sm.-29810.

Observations: This is not a Callistosporium but in the field it can hardly be distinguished from that group. In coll. 39924 the taste was farinaceous. Compare.

Collybia Sm.-3314

Pileus 1.5-3 cm. broad, convex with a flattened disc, umbilicate in age or only slightly depressed, "pinkish buff" or duller and more sordid, the color even, surface dry and innately fibrillose (under a lens); flesh very thin, grayish; rather pliant but not tough, taste and odor slightly farinaceous; lamellae subdistant, broad, adnexed, rather thick, whitish or at least paler than pileus, edges uneven to eroded; stipe 4-5 cm. long, 2-3 mm. thick, concolorous with pileus or paler, at first appressed silky fibrillose to apex, hoary in appearance, duller and brownish when fibrils are removed, solid narrowly tubular, equal.

Spores $7-9 \times 5-6 \mu$, broadly ellipsoid, smooth, yellowish in Melzer's sol.; basidia four-spored, $28-34 \times 7-8 \mu$, yellowish in Melzer's sol.; pleurocystidia and cheilocystidia none; gill trama parallel or nearly so, subhymenium not distinctive; pileus trama homogeneous, cuticular region of radial, appressed hyphae, no cystidium-like hyphal ends found; clamp connections present.

Habit, habitat and distribution: Gregarious in dirt at roadside, Lake Crescent, Wash., Oct. 23, 1935, Sm.-3314.

Observations: The pinkish buff pileus, slightly farinaceous odor and taste, adnexed thickish gills, and smooth spores are distinctive.

Collybia

Sm.-29985

Pileus 3-4 cm. broad, plane with a depressed disc which may or may not be perforated and an incurved margin, the margin finally spreading to recurved and wavy to scalloped, surface moist and hygrophanous, evenly "Saccardo's umber" to "tawny olive", the margin paler and striatulate, fading in patches or streaks (on disc first) to "cinnamon buff" and grayish to avellaneous over marginal area; flesh thin, very watery, unchanging, odor and taste not distinctive; lamellae near "buffy brown" (but paler--a dingy yellow-brown), close to subdistant, moderately broad near stipe, bluntly adnate, thickish, edges becoming uneven; stipe 4-6 cm. long, 4-6 mm. thick, terete or compressed, equal, hollow, watery-fragile, perfectly naked and glabrous, base with thin grayish fibrils, at first concolorous with pileus but base soon darkening from handling.

Spores 5.5-6 x 3.5 μ , elliptic to drop-shaped, smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored, 20-23 x 6-7 μ ; pleurocystidia and cheilocystidia none; gill trama interwoven, hyphae broad (10-20 (30) μ), hyaline to faintly dingy brownish in KOH; pileus trama homogeneous, slightly dingy in KOH; clamp connections present.

Habit, habitat and distribution: Gregarious in grass under young alder, Lower Takema Creek, Mt. Rainier National Park, Wash., Aug. 9, 1949, Sm.-29985.

Observations: The watery-fragile consistency and sordid yellow brown color are distinctive.

Collybia Sm.-36850

(see 8458 also)

Pileus 1-3 cm. broad, convex with an incurved margin, expanding to broadly convex or disc depressed, surface glabrous, moist and hygrophanous, when very young slightly hoary but this soon vanishing, when moist near "Verona brown", fading (on disc first) to near "cinnamon buff"; flesh pallid, taste slightly bitter, odor mild; lamellae broad, broadly adnate, close, "pale olive buff", slightly darker later, thickish in age, edges even; stipe 3-4.5 cm. long, 2-3 mm. thick, equal, terete or compressed, olive buff or dingy olive buff beneath a thin coating of silky fibrils which rubs off exposing the ground color, not darkening, white rhizomorphs present at base.

Spores 6-7.5 x 5-5.5 μ , broadly ellipsoid, smooth, white in deposit, yellowish in Melzer's sol.; basidia four-spored, 24-28 x 6-7 μ , content-oily-globular; pleurocystidia and cheilocystidia none; gill trama parallel, hyaline, subhymenium not distinctive; pileus trama homogeneous beneath a cuticle of narrow yellowish (in KOH) radial, appressed hyphae; clamp connections present.

Habit, habitat and distribution: Gregarious on sandy soil, Devereaux Lake, Cheboygan County, Mich., July 11, 1961, Sm.-36850.

Observations:

Collybia 28845 Sm. and 29078

Pileus 1-2 cm. broad, convex with an incurved margin, becoming broadly convex and with a shallowly depressed disc, surface silky on the disc and fibrillose-furfuraceous over margin, appearing unpolished to naked eye, evenly "wood brown" to "avellaneous", grayer when faded, merely subhygrophanous; flesh thin, concolorous with surface, unchanging when bruised, odor mild, taste bitterish; lamellae broadly adnate, becoming adnexed and some developing a slight decurrent tooth, pale avellaneous, thickish, edges even but becoming eroded; stipe 2-3 cm. long, 2-3.5 mm. thick, stuffed with a loose fibrillose pith, then tubular, equal or nearly so, concolorous (throughout) with pileus or slightly paler, surface with a thin evanescent coating of pallid silky fibrils.

Spores 7-9 x 4.5-5.5 μ , broadly ellipsoid, smooth, white in deposit, yellowish in Melzer's sol.; basidia four-spored, 26-32 x 7-8 μ , content somewhat oily; pleurocystidia and cheilocystidia none; gill trama parallel or nearly so, subhymenium not distinctive; pileus trama cinnamon buff in KOH, cuticular zone of compactly arranged radial hyphae giving off clavate to subcylindric-flexuous end cells with pale yellowish walls as pilocystidia; clamp connections present.

Habit, habitat and distribution: Scattered on naked soil on banks along roads and trails, Mt. Rainier National Park, Wash., July 4, 1948 (Sm-28845) and July 16 (Sm.-29078).

Observations: This is close to Sm.-36850 but differs in having a more furfuraceous pileus and paler color. The gills in both are thickish.

Collybia Sm.-3431

Pileus 10-15 mm. broad, convex, soon rather sharply depressed on the disc, moist but not noticeably hygrophanous, faintly appressed silky under a lens, opaque, color near "tawny olive" but paler, evenly colored; flesh thin, brittle, concolorous with pileus, odor none, taste tardily bitter; lamellae broad, thick, close to subdistant, broadly adnate to slightly depressed-adnate, paler than pileus (but not truly white) edges somewhat eroded; stipe 2.5-3.5 cm. long, 1.5-2 mm. thick, concolorous with pileus or paler, equal, faintly appressed silky, apex not pruinose, solid, fragile.

Spores 8-10 x 4-5 μ , oblong, smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored, 28-35 x 6-7 μ , content homogeneous; pleurocystidia none; cheilocystidia none; gill trama parallel or nearly so, hyaline in KOH, subhymenium not distinctive; pileus trama homogeneous, the cuticular hyphae radial and with pallid ochraceous incrusting pigment, compactly arranged; clamp connections present.

Habit, habitat and distribution: Gregarious on soil, roadside, Lake Takkenitch, Ore., Nov. 11, 1935, Sm.-3439.

Observations: The gills are whitish, not gray, and they are not decurrent.

Collybia acervata (Fries) Gillet, Les Hymenomycetes, p. 329. 1874.

Agaricus acervatus Fries, Syst. Myc., 1:132. 1821.

Gymnopus acervatus Murrill, North Amer. Flora, 9: 362. 1916.

Pileus 1-3.5 (4) cm. broad, very broadly convex with an inrolled margin when young, expanding to plane or with an up-lifted margin in age, margin scarcely striatulate moist and sometimes wavy or irregular, surface glabrous, moist and somewhat lubricous, hygrophanous, color when moist dark vinaceous brown "Natal brown", ("Road's brown" to "army brown"), the margin paler, fading to vinaceous buff; flesh thin, pliant, pale to dark vinaceous brown, odor and taste not distinctive; lamellae very crowded to close, narrow, rounded next to the stipe and free or nearly so, whitish when young, becoming pallid vinaceous or more sordid in age, edges even; stipe 3-12 (20) cm. long, 3-5 (8) mm. thick, densely caespitose and more or less covered at the base by a coating of grayish fibrils, concolorous with cap or darker and glabrous above, darker than cap in dried specimens.

Spores 5-5.5 x 3 μ , white in mass, smooth, narrowly ellipsoid to slightly bean-shaped, yellowish in Melzer's sol.; basidia four-spored, 22-25 x 4-5 μ ; pleurocystidia none differentiated; cheilocystidia scattered and filamentose, 18-26 x 2-3 μ , hyaline, flexuous; gill trama more or less interwoven, hyaline in KOH; pileus trama homogeneous, a few pilocystidia similar to the cheilocystidia seen projecting here and there, pellicle scarcely differentiated; clamp connections present.

(more)

Collybia acervata (Fr.)

Habit, habitat and distribution: Densely caespitose
around rotting wood of conifers, common in northern regions
and in the mountains during years of heavy precipitations.
(Sm.-2676 for microscopic characters).

Observations:

Collybia oregonensis Smith, Mycologia 29:47. 1937.

Pileus 5-10 cm. broad, obtuse to broadly convex, becoming plane or the margin uplifted slightly, surface appearing more or less granulose under a lens, finely granulose-areolate in age, subviscid to the touch, "bone brown" on disc, pecan brown" toward the "pale pinkish buff" margin, opaque in age; flesh thick, pale watery gray, tapered evenly to margin, becoming tinged with testaceous near cuticle, taste slightly bitterish, odor aromatic and resembling that of Hygrophorus agathasmus; lamellae close to nearly crowded, more or less 3 tiers of lamellulae, narrow (5-6 mm.), nearly equal, broadly adnexed, "ivory yellow" young, "tilleul buff" in age and then tending to be spotted reddish brown, edges becoming more or less eroded; stipe 6-12 (18) cm. long, 10-16 mm. thick at apex, equal to subventricose down to the narrowed base, pointed at base and terminating in a rhizomorph, white (when young, yellowish white in age, clear white in age), staining reddish in spots, stuffed to hollow and white within, very cartilaginous.

Spores 6.5-8 x 3.5-4 μ , smooth, hyaline-yellowish in Melzer's sol.; ellipsoid; basidia four-spored, 26-30 x 6-7.5 μ , content oily-granular in KOH; pleurocystidia and cheilocystidia none; gill trama more or less parallel, hyaline in KOH, hyphae 8-15 μ in diam.; pileus trama with a pellicle of narrow (3-6 μ) subgelatinous hyphae yellowish revived in KOH, hypoderm strongly pigmented, remainder pallid and floccose interwoven; clamp connections present.

(more)

Collybia oregonensis

Habit, habitat and distribution: Scattered on old conifer logs, Pacific Northwest, not uncommon in the fall. (Description from Smith no. 17610, Mt. Angeles, Olympic National Park, Wash., Oct. 7, 1941).

Discussion: This species appears to be related to Collybia maculata. Got a spore print. Coll. 27408 may be a distinct form; the cap was "seal brown" the gills "vinaceous buff" and the stipe "avellaneous" and the odor merely slightly pungent.

Collybia badifialba Murr.

Pileus (2) 3-7 cm. broad, obtuse to conic, the margin inrolled, becoming expanded and either plane or with an abrupt obtusely conic umbo, glabrous except for the extreme margin which is faintly downy-fibrillose at first, smooth or very finely rivulose, not translucent striate, moist to lubricous, subviscid when wet, pellicle non-separable or if so only in shreds, color "carob brown" to "bay", slowly changing to "hazel" or "cinnamon-rufous" (dark to light bay), the margin finally becoming "buff pink" (pale pink), the disc remaining dark red-brown, not hygrophanous; flesh thick in the disc, tapering evenly to the margin, reddish brown, soft pliant, watery, odor none, taste mild to slightly bitterish; lamellae deeply and sharply adnexed, crowded, (100-115 reach stipe), moderately broad, nearly equal (4-5 mm.), shining white to whitish, in age often spotted or stained reddish brown, usually intervenose, the edges distinctly serrate to eroded; stipe 7-11 cm. long, 5-9 mm. thick, hollow, slightly enlarged or abruptly narrowed at base, not rooting but with numerous rhizomorphs, very rigid and strict, faintly fibrillose-pruinose above, soon glabrescent, longitudinally striate, color "pale pinkish buff" to "vinaceous buff" staining reddish-brown below.

(more)

Collybia badifialba Murr.

Spores subglobose to broadly ellipsoid, 3-4.5 x 3-4 μ , smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia none; cheilocystidia none; gill trama parallel, subhymenium not distinctive; pileus trama homogeneous beneath a subgelatinous poorly defined pellicle, yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Gregarious to scattered on or near decayed conifer wood, spring and fall in the Pacific Northwest.

Observations:

Collybia Sm.-29503 (near hariolorum)

Pileus 1-3 (3.5) cm. broad, convex with an incurved margin, expanding to plane or with a low obtuse umbo, margin wavy in some old ones, surface moist, "Verona brown" fresh but marginal area soon near "vinaceous cinnamon" to "light pinkish cinnamon", faintly striate on margin when moist, in age or when revived near "light pinkish cinnamon" over all; flesh pliant, pallid watery to brownish, odor and taste not distinctive; lamellae adnexed, broad, moderately close to nearly subdistant, pallid, often stained vinaceous or in age more or less flushed vinaceous; stipe 2-4 cm. long, 2-2.5 mm. thick at apex, equal, tough and pliant, tubular, cortex brownish, lining of cavity pallid, surface pubescent over all (whitish) but increasingly so downward, with copious mycelium around the base.

Spores 6-7 x more or less 3.5 μ , narrowly oblong, smooth, yellowish in Melzer's sol.; basidia four-spored, 20-24 x 5-6 μ , yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia basidium-like or smaller, occasionally with a few bumps over the enlarged portion; gill trama interwoven, hyaline in KOH, yellowish in Melzer's sol.; pileus trama with a compactly interwoven cuticle of colored hyphae (walls with incrustated pigment), remainder more or less hyaline; clamp connections present.

Habit, habitat and distribution: Gregarious under alder, Longmire, Wash., July 27, 1948, Sm.-29503.

Observations: Compare carefully with C. hariolorum.

Collybia extuberans (Fr.) Quelet, Champ. Jura & Vosges, p. 97,
1872.

Pileus 2-5 cm. broad, conic with an inrolled margin when young, becoming broadly conic-campanulate or plane with a low or prominent conic umbo, glabrous, surface viscid when wet but soon dry and very finely radially wrinkled, the margin very thin and soon recurved, sometimes becoming faintly translucent-striatulate, color "bone-brown" (very dark brown with a tinge of red) over all when young, gradually becoming a dull shade of "pecan-brown" or a paler vinaceous brown (but not as red as in *C. badialba*); flesh thin, pliant and moderately tough, very sordid reddish brown near the pellicle, paler below, gradually becoming pallid throughout, odor none, taste mild; lamellae close to crowded, 48-56 reach the stipe, 2-3 tiers of lamellulae, distinct, sinuate and attached only by a tooth, narrow to moderately broad (3-5 mm.) equal or narrowed from the stipe to the margin of the cap, "pale pinkish buff" or with a more vinaceous cast (pallid buff to pinkish buff), becoming spotted with very sordid brownish spots, edges only slightly eroded; stipe 4-7 cm. long, 3-6 mm. thick above, more or less tapered at the base to a pseudorhiza-like prolongation which ends in one or more rhizomorphs, longitudinally striate, glabrous, pallid (concolorous with young gills) above, becoming sordid brownish progressively downward (base almost concolorous with the pileus in age).

Spores hyaline, 4.5-6 x 3-3.5 μ , narrowly ellipsoid, smooth, not or only very weakly amyloid (reaction not

(more)

Collybia extuberans

conclusive); basidia four-spored, 18-26 x 5-6.5 μ , clavate; pleurocystidia and cheilocystidia not differentiated; gill trama of more or less parallel cylindric hyphae 8-15 μ in diam., subhymenium very thin and ramose; pileus trama with a pellicle of radially arranged smooth-walled hyphae 3-4 μ in diam., the layer 2-3 hyphae thick, beneath this a layer of interwoven subgelatinous hyphae with clamp connections, the hyphae 3-5 μ in diam. and the layer 15-30 μ thick, the remainder of the flesh floccose, the hyphae 5-15 μ in diam., the pigment dissolved in the cell sap and most abundant just below the subgelatinous layer.

Habit, habitat and distribution: Cespitose to gregarious on rotten conifer logs, Pacific Northwest, late summer and fall, not rare during wet seasons.

Observations:

Collybia maculata (Fr.) Quélet, var. *maculata*

Pileus 5-9 cm. broad, obtuse to convex with an inrolled margin, surface at first covered by a whitish canescent coating, soon glabrous or whitish-canescant only along the margin, surface moist but opaque, not hygrophanous and not truly viscid, color pallid to evenly pale "cinnamon" (pale tan) at first, with scattered rather large polished spots of about the same color, fading slowly as expansion takes place, at maturity "pale pinkish buff" or whitish and usually stained reddish to ferruginous; flesh white, thick, firm, taste bitter or tardily bitterish, odor none or very faint; lamellae crowded and narrow (narrower than the thickness of the flesh of the pileus), adnate, "pale pinkish buff" when real young, soon white or whitish and becoming stained reddish brown particularly along the edges or where bruised; stipe 3-10 cm. long, 3-12 mm. thick, slightly narrowed downward and subradicating, base white cottony tomentose, upper portion evenly white pruinose, fibrillose or with a thin appressed tomentum, glabrescent and longitudinally striate in age, white to sordid whitish and soon stained rusty at the base.

Spores 4.5-5.5 (6) x 3.5-4.5 (5) μ , typically subglobose but varying either to globose or ellipsoid, smooth, hyaline under the microscope, cream color in deposit, not amyloid; basidia 20-24 x 5.5-7 μ , four-spored, clavate; pleurocystidia if present not projecting beyond the basidia and subfusoid

(more)

Collybia maculata (Fr.) Quelet, var. *maculata*

in shape (these may be immature basidia); cheilocystidia 10-18 (26) \times 2.5-4 μ , filamentose or somewhat contorted, very inconspicuous; gill trama regular or slightly interwoven, not amyloid, subhymenium thin and much branched; pileus trama with a compactly interwoven layer of surface hyphae 3-5 μ in diam., their walls very slightly gelatinous, the remainder of the trama loosely interwoven, the hyphae 6-12 μ in diam.; clamp connections present.

Collybia maculata var. *scorzonerea* ? (white spores)

Pileus (2.5) 4-8 (10) cm. broad, broadly convex with an inrolled margin, becoming plane or slightly umbonate, surface unpolished at first but soon moist and glabrous, in some the cuticle breaking up into minute areolae, color "cream color" to paler or brighter "Colonial buff" with a tendency for local areas to be flushed incarnate, margin at times lobed or sinuate and at times more or less zonate; flesh white or whitish, thick, turning pale yellow when first bruised, odor faintly fragrant, taste bitterish; lamellae "baryta yellow" to "pinard yellow" (very bright), finally staining reddish when bruised, adnate to depressed-adnate, crowded, narrow, 3-4 tiers of lamellulae, edges typically eroded; stipe 6-8 cm. long, 8-11 mm. thick, equal or narrowed below, hollow, cartilaginous, surface concolorous with gills, soon paler, unpolished, in age with reddish spots, veil absent, no pseudorhiza but stipe often sunken in substratum.

Spore deposit white, spores 6-7.5 x 3.5-4 μ , in face view narrowly oblong-pointed, somewhat drop-shaped in side view, smooth, yellowish in Melzer's sol.; basidia 28-34 x 6-7 μ , four-spored; pleurocystidia none; cheilocystidia scattered to abundant, filamentous, flexuous, projection 10-30 μ ; gill trama parallel, subhymenium not distinctive; pileus trama homogeneous beneath a cuticular zone of narrower interwoven hyphae, yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Gregarious to single

Collybia maculata var. *scorzonerea*

on rich humus, usually around conifer stumps or trees,

Rees' Bog, June 25, 1946, Sn.-21464.

Observations: Check a lot of spore deposits for color.

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Collybia maculata, var. *moschata* Lovejoy, Bot. Gaz. 50:384.
1910.

Pileus fleshy, firm, 6 cm. wide, convex to nearly plane, white, glabrous, shining, becoming tinged or stained with pinkish red blotches, disk sometimes broken up into large polygonal plates; margin turned down and even; flesh white, compact, tinged with pink just beneath the surface; lamellae whitish, in one specimen a faint pink tinge, annexed to nearly free; stipe stout, firm, 3 cm. long, 2 cm. wide, swollen in the middle, stuffed, becoming hollow, curved narrowed at base, striate, slightly roughened by broken fibers.

Spores white, smooth, sometimes with a slight point at one end, ~~3~~ 4 μ . It has a strong almost over-powering odor of musk.

Habitat: On side of dead lodgepole pine log, clustered; Foxpark, Wyoming, alt. 2900 meters, August 13, 1909, no. 79.

Collybia maculata var. *occidentalis* Sm. var. nov.

Pileus 3-8 cm. broad, convex with an inrolled margin, becoming nearly plane, surface moist or at first very faintly hoary, not viscid, white or with a faint pink or buff tinge at first, in age reddish spotted; flesh pliant, whitish, odor faint, taste bitterish; lamellae close but not crowded, white, usually stained reddish in age, narrow but becoming rather broad, adnate becoming rounded-adnexed; stipe 4-10 cm. long, 5-12 mm. thick, equal or ventricose below and then tapered to a short pseudorhiza, soon hollow, surface longitudinally striate, unpolished, white or whitish and usually reddish spotted at least in age.

Spores 5-7 x 3.5-4.5 μ , ellipsoid. The remainder of the microscopic characters are as given under var. typica.

Habitat: Shuksan Inn, Mt. Shuksan, Wash., Aug. 18, 1941 (S-16,243); Mt. Angeles, Olympic Mts., Wash., Sept. 21, 1941 (S-17,119) and again on Oct. 4 (S-17,539-type); Sol Duc Falls, Olympic National Park, Oct. 6 (S-17,600); Mt. Angeles Oct. 20, 1941 (S-18,069). All of these were either on humus or around very decayed conifer logs. Kauffman's collection, identified as C. maculata, from Lake Cushman, Wash., has spores 5-7 x 3.5-4 μ and also belongs here.

Collybia maculata, var. *scorzonerea* (Fr.) Gillet

Pileus 5-10 (15) cm. broad, broadly convex with an inrolled margin at first, becoming plane or in age the margin recurved somewhat, surface moist, glabrous, with scattered circular watery spots, color "light pinkish cinnamon" (pale buff) and fading to "pale pinkish buff" (not truly white), occasionally fading to "ivory yellow" (pale yellow) over all but the disc; flesh thick (1-1.5 cm.), firm, pliant, pallid, odor somewhat fragrant, taste bitterish; lamellae yellow or soon becoming so ("cream-color" to "marguerite yellow"), narrow (5 mm. more or less) but becoming up to 10 mm. in large caps, depressed-adnate, close but not crowded, 65 more or less reach the stipe, 2-4 tiers of lamellulae, edges even or slightly eroded and often stained reddish; stipe 5-8 (12) cm. long, 6-10 (15) mm. thick, equal or narrowed below, hollow, with rhizomorphs attached to the base, sometimes rooting, concolorous with the pileus and longitudinally striate, frequently stained reddish brown.

Spores 5.5-7 (8) \times 4-5 μ , typically ellipsoid. The other microscopic characters are as given under var. typica.

Collybia Sm.-26470 near *maculata*

Pileus 2-3 cm. broad, broadly conic, becoming campanulate and finally plano-umbonate, surface moist and hygrophanous, (but margin scarcely striatulate), watery buff (darker than "tilleul buff"), fading to whitish and then slowly changing to near vinaceous buff, developing darker ("pecan brown") spots, often white-hoary along the margin, buttons near "cinnamon buff" young); flesh thin, white, pliant, odor none, taste bitterish but soon mild, in age with dingy vinaceous spots; lamellae broad next to stipe, subdistant, 2-3 tiers of lamellulae, rounded adnate, whitish at first, soon creamy with a pinkish tinge, in age many with reddish spots edges uneven; stipe 4-6 cm. long, 3-5 mm. thick at apex, solid, tapered upward slightly, white to whitish, dull and unpolished as if frosted, finally glabrescent and long-striate.

Spores 5-6.5 x 2.5-3 μ , narrowly oblong, smooth, hyaline, yellowish in Melzer's sol.; basidia four-spored, 18-24 x 4-5 μ ; pleurocystidia and cheilocystidia none except for contorted filaments which may be germinating basidia; gill trama parallel, hyaline, subhymenium not distinctive; pileus trama homogeneous, surface with contorted filaments projecting; clamp connections present.

Habit, habitat and distribution: Gregarious on rotten wood, Petawawa Forest, Ont., Sept. 3, 1947, Sm.-26470.

Observations: Near *C. maculata* but gills subdistant. Check spore print.

Collybia Sm.-19065

Pileus 1-3 cm. broad, convex with an incurved margin, becoming plane or with a decurved margin and a slight umbo, glabrous and moist, hygrophanous, "vinaceous buff", fading to "pale pinkish buff" or remaining darker (vinaceous-avellaneous) over center; flesh whitish, pliant, odor fungoid, taste mild to slightly bitterish; lamellae close to near subdistant, narrow, adnexed, 2 tiers of lamellulae, thin, creamy white, edges entire; stipe 4-7 cm. long, 4-6 mm. thick at apex, slightly and evenly enlarged downward, cartilaginous, hollow, longitudinally fibrous-striate, pallid to pale vinaceous above, darker vinaceous to sordid pale vinaceous downward, base with copious white mycelium and numerous small fruiting bodies ("buttons"), lower part of stipe and buttons generally more dingy vinaceous after being handled.

Spores pure white in deposit, 5-6 x more or less 3 μ , drop-shaped, smooth, yellowish in Melzer's sol.; basidia four-spored, some with amorphous granules within; pleurocystidia and cheilocystidia none; gill trama interwoven, more or less "glassy" in appearance in KOH but not gelatinous, subhymenium not distinctive; pileus cuticle of hyphae 2-3 μ in diam., layer very thin and not gelatinous, some hyphal tips projecting as pilocystidia, tramal body yellowish in Melzer's sol.; floccose, hyaline, subglassy in KOH, hyphae 6-12 plus μ in diam.; clamp connections present.

(more)

Collybia Sm.-19065

Habit, habitat and distribution: Subcespitose by an alder log, Bruin Run Creek, Mt. Hood National Forest, Ore, Sept. 24, 1944, Sm.-19065.

Observations: It reminded me of Marasmius creodes but has narrow gills and different structure of the pileus. It is related to Collybia maculata.

collybia sp. Sm.-10023

Pileus 3-3.5 cm. broad, convex with an incurved margin, expanding to broadly convex or plane, glabrous, pale dingy cream color to "cinnamon buff", disc in some "clay color", moist, hygrophanous, whitish when faded, widely striate moist; odor and taste not recorded; lamellae broad, distant, adnate to subdecurrent, concolorous with pileus; stipe 3-6 cm. long, 6-10 mm. thick, tough-cartilaginous, glabrous, dull, concolorous with pileus.

Spores more or less $4 \times 2 \mu$, smooth, hyaline yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia none; gill trama interwoven, yellowish in Melzer's sol.; pileus trama homogeneous, yellowish in Melzer's sol.; clamp connections absent.

Habit, habitat and distribution: On an old conifer log, Cades Cove, Tenn., Aug. 10, 1938, Sm.-10023.

Observations: The lack of clamp connections, minute spores, colors and habitat are distinctive.

Collybia polyphylla (Pk.) Sm.-11056

Pileus (2) 3-6 (7) cm. broad, convex when young, soon plane or with the margin recurved and wavy, color "vinaceous tawny" with a paler margin, buttons at times near "natal brown" (very dark vinaceous brown), sometimes "Sabal brown" with an avellaneous margin, gradually becoming paler and finally whitish except for a vinaceous brown spot on the disc, margin frequently becoming lacerated, surface glabrous, often areolate; flesh moderately thick, white, pliant, when crushed having the odor of spoiled garlic, taste similar but not strong; lamellae very crowded, many tiers of lamellulae, narrow, some forked or anastomosing, free or attached by a tooth, white and unchanging, edges even; stipe 3-5 cm. long, (1) 2-5 (6) mm. thick, equal or narrow below, hollow, pliant, evenly covered by a coarse white tomentum, faint tinge of vinaceous brown showing through, with a mat of white mycelium surrounding the base.

Spores white in deposit, 5-6 x 3-3.5 μ , ellipsoid, smooth, yellowish in Melzer's sol.; basidia four-spored, 20-23 x 4-4.5 μ , yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia filamentose (but often matted down in revived sections) or rarely saccate, hyaline, thin walled; gill trama interwoven, subhymenium reddish in sections revived in Melzer's sol. and this color extending to central strand also but fading to yellow on standing; pileus trama homogeneous, yellowish in Melzer's sol., cuticular region of compactly arranged radial hyphae; clamp connections present.

(more)

Collybia polyphylla

Habit, habitat and distribution: Densely caespitose on rich humus and debris in hardwood forests, common early in the season (June to early July). Sm.-11056.

Observations:

Collybia exp^apellens Pk. Sm.-4405 (include in *Lyophyllum*
by 34200)

Pileus 2-3.5 cm. broad, convex with an incurved margin, expanding to broadly convex with a depressed disc, glabrous, moist, hygrophanous, pale watery gray ("drab"), or paler moist, whitish cinereous faded, fading on the disc first, striatulate on the margin when moist, appearing streaked when fading; flesh dingy grayish brown, thin, fragile, odor and taste very strongly farinaceous; lamellae close to subdistant, adnexed, moderately broad, pale gray (concolorous with pileus); edges uneven to eroded; stipe 4-6 cm. long 2-4 mm. thick, equal, fragile, hollow, somewhat undulating, faintly pruinose at apex.

Spores 5.5-6.5 x 3.5-4 μ ; hyaline, smooth, yellowish in Melzer's sol.; basidia four-spored, 24-28 x 5-6 μ ; pleurocystidia and cheilocystidia none; gill trama more or less parallel, pallid to dingy fuscous brown in KOH; pileus trama homogeneous, pale bistre in KOH (darkest in upper region) no differentiated pellicle but surface hyphae narrower than those of tramal body; clamp connections present.

Habit, habitat and distribution: Gregarious on sphagnum, Lake Timagami, Ont., Sept. 1, 1936, Rory Cain (Sm.-4405).

Observations: This close to #34200 (#77 in *Lyophyllum*) but does not have yellowish gills.

Collybia Sm.-38971

Pileus broadly convex with an incurved margin, expanding to plane or the disc finally depressed and the margin arched, surface moist but at first unpolished from minute scattered hairs or projections, appearing glabrous in age, hygrophanous, between tawny olive and wood brown, fading to pallid ashy, faintly striate moist; flesh very thin, pallid, soft, with a strongly farinaceous odor and taste, no color changes when bruised; lamellae bluntly adnate, subdistant, usually intervenose, in age moderately broad, color pallid to faintly olive buff ("pale olive buff" more or less), edges even; stipe short, 1-3 cm. long, 2-3.5 mm. thick, narrowed downward, tubular, fragile, concolorous with gills or darker gray below, glabrous or with scattered appressed, minute fibrils; no veil present.

Spores 6-6.5 x 3-3.5 μ , narrowly ellipsoid to sub-cylindric, hyaline, colorless in iodine when fresh, smooth; basidia four-spored, 14-18 x 5-6.5 μ , hyaline in KOH; pleurocystidia and cheilocystidia none; seen; gill trama hyaline, of somewhat interwoven hyphae; pileus trama homogeneous, the cuticular zone of compactly interwoven brownish hyphae with occasional aggregations of hyphae projecting (as hairs), scattered filaments (3-5 μ in diam.) also projecting as pileocystidia; no clamp connections seen.

(more)

Collybia Sm.-38971

Habit, habitat and distribution: Gregarious to scattered on very decayed beech logs, Tahquamenon Falls State Park, Mackinaw County, Mich., June 19, 1952, Sm.-38971.

Observations: When collected, I thought of C. abundans but the scabrous-roughened pileus reminding one of C. ectypoides as to type of roughness, the nonamyloid spores and very strong odor and taste are distinctive.

Collybia Sm.-40009

is peculiar for a fungus with a pileus colored like this one to become pallid in fading. The pileus and stipe are gray as dried but the gills dried dull brown. There has been no tendency for red tints to develop as a result of contact with naphthalene.

Collybia cylindrospora Kauff. Pap. Mich. Acad. Sci. 5:126. 1926.

Pileus 3-7 cm. broad, plane with a recurved and wavy striatulate margin, often lobed in age, surface glabrous and moist, "clay-color" to "pinkish buff," fading as if hygrophanous after heavy rain, becoming pallid to nearly "pale ochraceous buff" (yellowish) and retaining this color when dried or else becoming tinged alutaceous, unpolished when faded or dried; flesh thin, pliant, reviving somewhat (1.5-2 mm. thick), equal, concolorous with the surface, odor and taste not distinctive; lamellae subdistant, 28-30 reach the stipe, 3-4 tiers of lamellulae (outer two tiers very short), moderately broad (5 mm. more or less near the stipe and narrowed toward the cap-margin), bluntly adnate or decurrent by a tooth, seceding, "tulleul-buff" (pallid) when young and old, drying concolorous with the pileus or slightly paler, occasionally stained with rusty brown spots, edges even but wavy; stipe 5-7 cm. long, 3-7 mm. thick at the apex, hollow, terete or compressed, very tough and pliant, velvety to unpolished and distinctly longitudinally grooved, dark brownish moist but fading like the pileus and nearly concolorous with it when dried, base strigose and with numerous white rhizomorphs.

Spores 5-6 \times 2.5 μ , narrowly ellipsoid, smooth, not amyloid; basidia four-spored, 20-24 \times 3.5-5 μ , subclavate; pleurocystidia not differentiated; cheilocystidia scattered to rare, filamentose, 18-30 \times 2.5-3 μ , flexuous; gill trama interwoven, nearly hyaline in iodine (basidia brownish), sub-

(more)

Collybia cylindrospora

hymenium thin; pileus trama homogeneous, the surface hyphae compactly interwoven and slightly narrower than the remainder.

Habit, habitat and distribution: Gregarious to scattered under alder, Park Creek, Mt. Baker, Wash., Sept. 10, 1941, Sm.-16811; Mt. Baker, Wash., Sept. 13, Sm.-16936; Chimarum, Wash. (Olympic Peninsula), Oct. 13, 1941, Sm.-17856.

Observations:

Collybia hariolarum sensu Kauff. Sm.-10927

Pileus 2-6 cm. broad, convex with an inrolled margin, expanding to plane or margin becoming wavy and uplifted, glabrous, surface moist and lubricous, margin closely striatulate moist, somewhat plicate-undulated when faded, color a dull dingy tan (near "Sayal brown"), fading to "pinkish buff", paler on margin, disc darker after fading (becoming a reddish brown in some); flesh thin, tough, whitish, odor and taste none or mild; lamellae very crowded, narrow, (1.5 mm.), adnate or with a subdecurrent tooth, whitish at first, in age flushed pinkish tan and in older caps spotted dingy incarnate-tan; stipe 3-5 cm. long, 3-5 mm. thick, densely tomentose to pubescent up to the apex, equal, pliant, hollow, with a cartilaginous cortex, at first whitish above, pinkish tan near base, in age sordid pinkish tan over all (color never bright tawny or red brown) with white rhizomorphs at base.

Spores 5-6 x 3-3.5 μ , ellipsoid, smooth, yellowish in Melzer's sol.; basidia four-spored, 20-24 x 4-5 μ ; pleurocystidia none; cheilocystidia none or scattered short filaments, 2-3 μ in diam. present; gill trama interwoven, hyaline, subhymenium not distinctive; pileus trama floccose-interwoven beneath a compact pellicular layer of radial slightly narrow (4-6 μ) or non-gelatinous hyphae; clamp connections present.

(more)

Collybia hariolorum

Habit, habitat and distribution: Gregarious to scattered on fallen leaves in hardwood forests, summer and early fall, not uncommon during wet seasons. Sm.-10927.

Observations:

Collybia Sm.-8438

(see #36850)

Pileus 2-4.5 cm. broad, convex with a flattened or depressed disc, at maturity the disc more deeply depressed, surface moist, "Verona brown" in dark caps, "wood brown" to "avellaneous" in others, fading slowly to near pinkish buff, canescent from innate minute buffy-white to vinaceous-white fibrils, margin opaque and consistently very irregular--plicate-crenate to lobed; flesh watery cinnamon buff, thin, pliant, odor none, taste slightly bitterish; lamellae broad, broadly adnate (often toothed) readily seceding, subdistant, "tilleul buff", becoming darker in age, edges usually broken and irregular to eroded; stipe 5-7 cm. long, 4-6 mm. thick, equal or enlarged above, often compressed, hollow, concolorous with pileus and like it covered by a canescent fibrillose coating at first, glabrescent, moist and polished in age, with a tough cartilaginous cortex.

Spores 7-8 (9) \times 5-5.5 (6) μ , broadly ellipsoid, smooth, hyaline in KOH, yellowish in Melzer's sol.; basidia four-spored, 28-33 \times 7-8 μ , yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia none; gill trama parallel or nearly so; pileus trama homogeneous, surface hyphae more or less interwoven and some free ends projecting; clamp connections present.

Habit, habitat and distribution: Gregarious under fir and spruce, Crescent City, Calif., Nov. 5, 1937; Sm.-8438.

Observations:

Collybia alba Peck

Sm.-6614

Pileus 1-2.5 cm. broad, with a low abrupt umbo or expanding to nearly plane, the margin inrolled at first, plicate to crenate in age, surface canescent and dull white at first, dry and opaque, in age or when water-soaked becoming creamy white to cinnamon buff, or finally dingy brownish and in this stage translucent striate and appearing as if hygrophanous; lamellae thickish, close subdistant (16-25 reach stipe) 3-4 tiers of lamellulae, sinuate adnate, narrow, becoming ventricose and then moderately broad, "ivory yellow" at first, more dingy brownish in age, intervenose, edges becoming slightly eroded; stipe 2-4 cm. long, 1-2.5 mm. thick, equal, tubular, white or in age dingy like the pileus, brittle, canescent at first, with rhizomorphs at the base.

Spores 5.5-6.5 \times 3.5-4.5 μ , broadly ellipsoid, smooth, hyaline, yellowish in Melzer's sol.; pleurocystidia and cheilocystidia none; gill trama somewhat interwoven; hyaline in KOH, yellowish in Melzer's sol.; pileus trama homogeneous, with numerous hyphal tips projecting (to produce canescent appearance), the end cells 20-50 \times 5-7 μ , some narrowly clavate, some cylindric; clamp connections absent.

Habit, habitat and distribution: Scattered on old oak logs, Kent Lake, Oakland County, Mich., July 22, 1937, Sm.-6614.

Observations:

Collybia Sm.-4036

Pileus 8-18 mm. broad, convex, the disc slightly depressed or slightly umbonate, glabrous, moist, margin incurved at first, hygrophanous, "Kaiser brown" to "ferruginous", fading to apricot buff, opaque at all stages, margin entire or slightly torn; flesh moderately thick, ferruginous, taste mild, odor not distinctive; lamellae moderately broad, subdistant, to close, adnate, becoming sinuate, thin, "hazel" in all stages; stipe 3-6 cm. long, 2-3 mm. thick, glabrous, cartilaginous, pale ferruginous to "apricot buff", base whitish from scanty mycelium.

Spores white in deposit, $4-5 \times 3.3-4 \mu$, subglobose to broadly ellipsoid, hyaline in KOH, yellowish in Melzer's sol.; smooth; basidia four-spored, $26-30 \times 6-7 \mu$, yellowish in Melzer's sol.; pleurocystidia none; cheilocystidia none; gill trama more or less interwoven, subhymenium not distinctive; pileus trama homogeneous, dingy pallid orange-brownish in KOH, scarcely colored in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Gregarious on sphagnum, Lake Timagami, Ont., Aug. 20, 1936, Sm.-4036.

Observations: This species has the appearance of a member of the C. nitellina group but has smooth spores which are white in deposit.

Collybia dryophila var. ^{u i} ~~laterifolia~~ ~~aeuosa~~ (George Reserve, 1932)

Pileus 2-5 cm. broad, convex with an inrolled margin, expanding to plane or the margin uplifted and wavy, surface smooth, glabrous, moist, watery-hygrophanous, honey yellow or tinged sulphur toward margin, finally brownish over the disc, pallid yellowish faded but disc dingy brownish, margin striatulate at first; flesh thin, pliant, pallid, watery, odor and taste mildly fungoid; lamellae adnexed, rounded behind, crowded, narrow, pale yellow to near lemon yellow; stipe 5-7 cm. long, 4-6 mm. thick, equal to enlarged downward, hollow, terete or compressed, more or less concolorous with the pileus or brownish at base and yellow above, glabrous, apex usually faintly floccose pruinose.

Spores white in deposit (Kauff.), 5-6 \times more or less 3 μ , oblong-pointed, smooth, in Melzer's sol. yellowish; basidia four-spored, pleurocystidia none; cheilocystidia none or basidioid and aborted; gill trama somewhat interwoven, subhymenium not distinctive; pileus trama homogeneous beneath a compactly interwoven cuticular zone, yellowish in Melzer's sol.; clamp connections present.

Habit, habitat and distribution: Scattered to caespitose on humus, especially in low places around larch, spring and early summer, common in the Great Lakes Region.

Observations: This intergrades with C. dryophila but appears distinct in its typical form which appears early in the season.

Collybia asema (Fr.) Gillet

Pileus 3-7 cm. broad, obtuse to convex when young, with an inrolled margin, becoming broadly convex, plane, or slightly umbonate, the margin sometimes turned up in age, surface glabrous and lubricous, smooth or at times slightly wrinkled or rugose, "natal brown" becoming "Saccardo's umber" or "buffy brown" to "drab", finally becoming pale isabelline, fading as if hygrophanous to "avellaneous" or pallid, margin either opaque or faintly striatulate when moist; flesh pale gray, watery, pliant, thick in the disc, thin over marginal area, odor and taste not distinctive; lamellae sinuate, close (55-65 reach the stipe), 3 tiers of lamellulae, moderately broad (3-4.5 mm.) white, edges even or crenulate to slightly eroded; stipe 4-7 cm. long, 4-8 mm. thick at apex, enlarged or clavate at the base, stuffed with a white pith, becoming hollow, splitting lengthwise readily, surface twisted or merely fibrillose striate with appressed fibrils, glabrescent, faintly pruinose toward apex, pallid to whitish above, grayish brown below.

Spores 1.5-3 x 3-4 μ , narrowly ellipsoid, smooth, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia none; gill trama subparallel, subhymenium not distinctive, all pale yellowish in Melzer's sol.; pileus trama homogeneous beneath a thin poorly formed subgelatinous pellicle, yellowish in Melzer's sol.; clamp connections present.

(more)

Collybia asema (Fr.) Gillet

Habit, habitat and distribution: Single to gregarious under cedar, alder and Douglas Fir in the Pacific Northwest and under oak in Michigan, summer and fall.

Observations;

Collybia butyracea (Fr.) Kummer Sm.-16903.

Pileus 2-4.5 cm. broad, broadly convex with an in-rolled margin, becoming plane, glabrous, hygrophanous, "chocolate brown" to "cane brown" moist, and lubricous, fading to "buff pink", margin thin and becoming slightly recurved, not striate, flesh moderately thick, tapered evenly to margin, concolorous with surface moist, pale pinkish cinnamon faded, rather soft but not fragile, odor none; taste disagreeable; lamellae "pale vinaceous fawn", close to subdistant, deeply adnexed and attached to apex of stipe by a tooth, broad next to the stipe, narrowing gradually to cap margin, 2 tiers of lamellulae, edges uneven to eroded; stipe 4-5 cm. long, 3-5 mm. thick at apex, narrowly clavate, stuffed with a loose pith but soon hollow, surface often longitudinally striate, surface pruinose above, more or less concolorous with pileus or at apex, paler.

Spores, deposit creamy yellowish; 7-8 x more or less 4 μ , oblong to narrowly drop-shaped, smooth, hyaline in KOH, in Melzer's sol.; yellowish; basidia four-spored, 23-27 x 5-6.5 μ , yellowish in Melzer's sol.; pleurocystidia and cheilocystidia none; gill trama parallel or nearly so, hyaline in KOH, yellowish in Melzer's sol.; pileus trama homogeneous, cuticular region merely more compactly interwoven; clamp connections present.

Habit, habitat and distribution: Gregarious under conifers throughout the United States. (Sm.-16903.)

Observations:

Collybia Sm.-29130 (may be related to *Pleurotus lignatilis*)

Pileus (3) 4-9 cm. broad, convex to obtuse with an in-rolled margin young, expanding to plane or the disc slightly and shallowly depressed and margin often wavy as well as lobed, surface glabrous and when wet lubricous to subviscid, with a buttery feel, subhygrophanous but only the extreme margin occasionally striatulate, color (of brightest ones) "fawn color" on disc and "pale vinaceous fawn" on margin, usually merely "avellaneous" on disc and the margin "tilleul buff", fading slowly to whitish as though subhygrophanous; flesh pliant, usually pale watery avellaneous, odor and taste fungoid (not distinctive); lamellae close but not crowded, 3-4 tiers of lamellulae, narrow but finally moderately broad next to the stipe, adnate to rounded-adnate, becoming narrowly adnexed and often seceding, somewhat separable from cap trama "pale vinaceous fawn" young, "tilleul buff" at maturity; stipe 3-7 cm. long (3) 4-9 (10) mm. at apex, often slightly eccentric, often enlarged slightly at the base at first, equal in age, solid, fleshy-pliant, cortex more or less cartilaginous and pallid avellaneous or tinged flesh color, surface obscurely flesh color with a pallid overcast from a hoary silky coating.

Spores 4.5-5 x 3 (29,30) in 30198 variable and 5-6 x 3, 6-8 x 3.5 μ and some 8-10 x 4-4.5 μ , ellipsoid, smooth, hyaline in KOH, yellowish in Melzer's sol.; basidia four-spored; pleurocystidia and cheilocystidia none; gill trama more or less interwoven; pileus trama homogeneous, hyaline

Collybia Sm.-29130

Habit, habitat and distribution: On old alder logs,
Lower Tahoma Creek, Mt. Rainier National Park, Wash., July
19, 1948, Sm.-29130.

Observations:

Collybia dryophila (Fr.) Quelet, Champ. Jura et Vosges
p. 97 (67). 1872.

Agaricus dryophilus Fries, Syst. Myc. 1: 124. 1821.

Gymnopus dryophilus Merrill, North Amer. Flora 9:362. 1916.

Marasmius dryophilus Rea, Brit. Basidiomycetae p. 524. 1922.

Pileus 2.5-5 (7) cm. broad, when young very broadly convex to nearly plane, sometimes slightly umbonate, soon flat or nearly so, in age the margin often elevated and wavy, margin remaining strongly inrolled until near maturity and slightly pubescent at first, surface smooth to somewhat ~~unwet~~, moist and appearing subhygrophanous, opaque, color variable, dark rusty brown ("warm sepia") to bright reddish brown ("hazel") at first, gradually becoming yellowish brown ("Buckthorn brown") over the disc and subochraceous along the margin, sometimes developing a pale grayish cinnamon cast; flesh nearly equal in thickness and as thick or thicker than the width of the gills, pallid fading to whitish, pliant, odor pleasant but faint, taste mild; lamellae very crowded, 50-65 reach the stipe, 3-4 tiers of lamellulae, appearing adnexed, whitish or pallid, edges even; stipe 4-7 cm. long, hollow, cartilaginous, surface dull and unpolished when young, glabrous, smooth, terete or compressed, pallid or tinged with the color of the pileus but usually paler, base furnished with numerous white rhizomorphs and sometimes spongy-bulbous.

(more)

Collybia dryophila (Fr.) Quelet

Spores 5-6 \times 3 μ , white in mass, narrowly ellipsoid, smooth, not amyloid; basidia four-spored, 18-20 \times 4-4.5 μ ; pleurocystidia and cheilocystidia not differentiated; gill trama homogeneous, hyphae parallel or nearly so and filamentous (cells 4-8 μ in diam.); pileus trama homogeneous, cuticle differentiated only as a more compact layer of more or less radially arranged hyphae, upper region of trama and the cuticle dull brownish in KOH, more or less hyaline toward the gills. (Gruber Mt. Scott #15.)